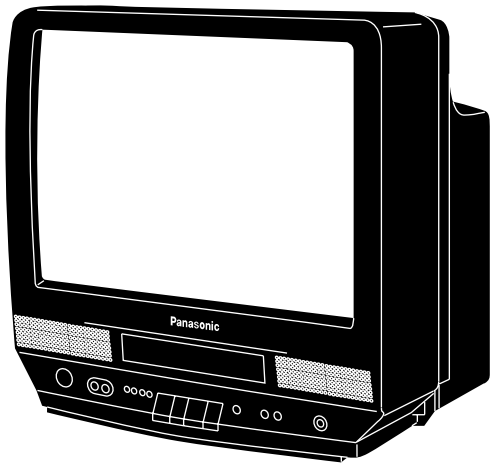
ORDER NO. MKS9701M321
B3, B6

Service Manual

Combination-VCR

Omnivision VHS



- P PV-M1327
- P PV-M1347
- P PV-M1357W
- Q VV1307
- Q VV1317W
- P PV-M2037
- P PV-M2047
- Q VV2007
- Q VV2017W

SPECIFICATIONS

ITEM		SPECIFICATION	1	2	3	4	5	6
VCR	Video	Head: 2 rotary heads helical scanning system	○	○	-	○	○	-
		4 rotary heads helical scanning system	-	-	○	-	-	○
		Input Level: VIDEO IN Jack (Phono type) 1.0 Vp-p 75Ω unbalanced Signal-to-Noise Ratio: SP: more than 43 dB LP/SLP: more than 41 dB Horizontal Resolution: Color/Monochrome: more than 230 lines	○	○	○	○	○	○
	Audio	Head: Normal Mono: 1 stationary head	○	○	○	○	○	○
		Input Level: AUDIO IN Jack (Phono type) -10 dBv 50kΩ unbalanced	○	○	○	○	○	○
		Frequency Response: Normal Mono: SP: 100 Hz ~ 8 kHz LP: 100 Hz ~ 6 kHz SLP: 100 Hz ~ 5 kHz	○	○	○	○	○	○
		Signal-to-Noise Ratio: Normal Mono: SP: more than 42 dB LP/SLP: more than 40 dB	○	○	○	○	○	○
		Wow and Flutter: Normal Mono: SP Less than 0.2% WRMS LP: Less than 0.3% WRMS SLP: Less than 0.4% WRMS	○	○	○	○	○	○
	Tuner	Broadcast Channels: VHF 2 ~ 13, UHF 14 ~ 69 CATV Channels: Midband A through I (14 ~ 22) Superband J through W (23 ~ 36) Hyperband AA ~ EEE (37 ~ 64) Lowband A-5 ~ A-1 (95 ~ 99) Special CATV channel 5A (01) Ultraband 65 ~ 94, 100 ~ 125	○	○	○	○	○	○

ITEM		SPECIFICATION	1	2	3	4	5	6
VCR	Tape Speed	SP: 1-5/16 i.p.s (33.35 mm/sec), LP: 21/32 i.p.s (16.67 mm/sec), SLP: 7/16 i.p.s (11.12 mm/sec) Record/Playback Time: 8 Hrs with 160 min. type tape used in SLP mode FF/REW Time: Less than 3 min. (120 min. type tape)	○	○	○	○	○	○
	Tape Format	Tape width 1/2" (12.7 mm) high density tape	○	○	○	○	○	○
FM Radio	Band Renge	87.5 ~ 108.1 MHz	-	-	○	○	-	○
DISPLAY	Picture Tube	13 inch measured diagonal 90° deflection	○	○	○	-	-	-
		20 inch measured diagonal 90° deflection	-	-	-	○	○	○
GENERAL	Power	Source: 120V AC ± 10%, 60 Hz ± 0.5%	○	○	○	○	○	○
		Consumption: Approx. 69 watts (power on), Approx. 6 watts (power off)	○	○	○	-	-	-
		Approx. 110 watts (power on), Approx. 6 watts (power off)	-	-	-	○	○	○
	Television System	EIA Standard (525 lines, 60 fields) NTSC Color Signal	○	○	○	○	○	○
	Operating Condition	41°F(5°C) ~ 104°F(40°C) (Temperature) 10% ~ 75% (Humidity)	○	○	○	○	○	○
	Dimension	15-3/16"(386mm) (W) X 15-7/8"(402.5mm) (H) X 16-11/16"(424mm) (D)	○	-	○	-	-	-
		15-3/16"(386mm) (W) X 15-3/16"(385mm) (H) X 16-11/16"(424mm) (D)	-	○	-	-	-	-
		20-3/10"(515mm) (W) X 19-4/5"(503mm) (H) X 19-1/10"(484mm) (D)	-	-	-	○	-	○
		20-3/10"(515mm) (W) X 19-4/5"(505mm) (H) X 19-1/10"(484mm) (D)	-	-	-	-	○	-
	Weight	27.4 lbs. (12.4 kg)	○	-	○	-	-	-
		26.0 lbs. (11.8 kg)	-	○	-	-	-	-
		49.95 lbs. (22.67 kg)	-	-	-	○	-	-
		50.12 lbs. (22.75 kg)	-	-	-	-	-	○
		50.67 lbs. (23 kg)	-	-	-	-	○	-

1. PV-M1327
2. VV1307/VV1317W
3. PV-M1347/PV-M1357W
4. PV-M2037
5. VV2007/VV2017W
6. PV-M2047

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK	MODEL	MARK
PV-M1327	A	PV-M2037	F
VV1307	B	VV2007	G
VV1317W	C	VV2017W	H
PV-M1347	D	PV-M2047	I
PV-M1357W	E	NOT USED	Z

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. **IMPORTANT SAFETY NOTICE**
   There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of Combination VCR whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect Combination VCR from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations are properly installed.
5. Before turning the receiver on, measure the resistance between B+ line and chassis ground. Connect (-) side of an ohmmeter to the B+ lines, and (+) side to chassis ground. Each line should have more resistance than specified, as follows :

B+ Line	Minimum Resistance	
130V	1K ohm	(Hot chassis ground)
27V	180 ohms	(Cold chassis ground)
17V	110 ohms	(Cold chassis ground)

6. When the TV set is not used for a long period of time, unplug the power cord from the AC outlet.
7. Potentials, as high as 25.0KV (Model: A, B, C, D, E) or 30.0KV (Model: F, I) or 29.0KV (Model: G, H) are present when this TV set is in operation. Operation of the TV set without the rear cover involves the danger of a shock hazard from the TV set power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the CRT ground of receiver before handling the tube.
8. After servicing make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 M ohm and 12 M ohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet.
   Do not use a isolation transformer for this check.
2. Connect a 1.5K ohms, 10 watts resistor, in parallel with a 0.15 micro farad capacitor, between each exposed metallic part on the set and a good earth ground , as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volt RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliampere. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

Hot-Check Circuit

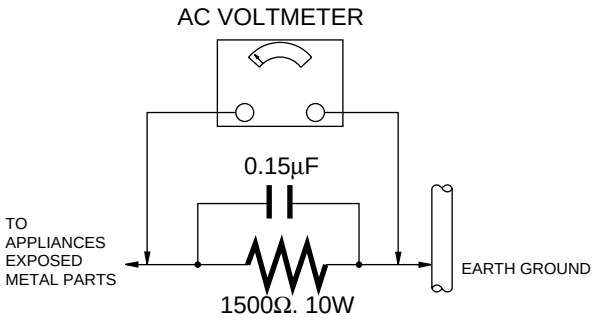


Figure 1

X-RADIATION

WARNING :

1. The potential source of X-Radiation in TV sets is the High Voltage section and the picture tube.
2. When using a picture tube test fixture for service, ensure that the fixture is capable of handling 25.0KV (Model: A, B, C, D, E) or 30.0KV (Model: F, I) or 29.0KV (Model: G, H) without causing X-Radiation.

NOTE :
It is important to use an accurate periodically calibrated high voltage meter.

1. Reduce the brightness to minimum.
2. Set the SERVICE switch to SERVICE .
3. Measure the High Voltage. The meter reading should indicate 23.5 +/- 1.5KV (Model: A, B, C, D, E) or 28.5 +/- 1.5KV (Model: F, I) or 27.5 +/- 1.5KV (Model: G, H).
   If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
4. To prevent an X-Radiation possibly, it is essential to use the specified picture tube.

HORIZONTAL OSCILLATOR DISABLE CIRCUIT TEST

SERVICE WARNING :

The test must be made as a final check before set is returned to the customer.

1. With the rear cover removed, supply about a 120V AC power source to the set, turn on the set.
2. Set the customer controls to normal operating positions.
3. Short between TP891 and TP892 on the Main circuit board with a jumper wire. Confirm that the picture goes out of horizontal sync.
4. If this does not occur, the horizontal oscillator disable circuit is not operating. Follow the Repair Procedures of horizontal oscillator disable circuit before the set is returned to customer.

REPAIR PROCEDURES OF HORIZONTAL OSCILLATOR DISABLE CIRCUIT

1. Connect a DC voltmeter between capacitor C513 (+) on the Main circuit board and chassis ground.
2. If approximately +21.9V is not present at that point when 120V AC is applied, find the cause. Check R503, R5505, C5507, C513 and D503.
3. Carefully check above specified parts and related circuits and parts. When the circuit is repaired, try the horizontal oscillator disable circuit test again.

CIRCUIT EXPLANATION

HORIZONTAL OSCILLATOR DISABLE CIRCUIT

The positive DC voltage, supplied from the D503 cathode for monitoring high voltage, is applied to the IC5301 Pin11 through R503 and R5504. Under normal conditions, the voltage at IC5301 Pin 11 is less than approx 3V. If the high voltage at Flyback Tr Pin 6 exceeds the specified voltage, the positive DC voltage which is supplied from the D503 cathode also increases. The increased voltage is applied to IC5301 Pin11 through R503 and R5504. Due to the increased voltage at IC5301 Pin11, the horizontal oscillator frequency increases, the picture goes out of horizontal sync, the beam current decreases and the picture becomes dark in order to keep X-radiation under specification.

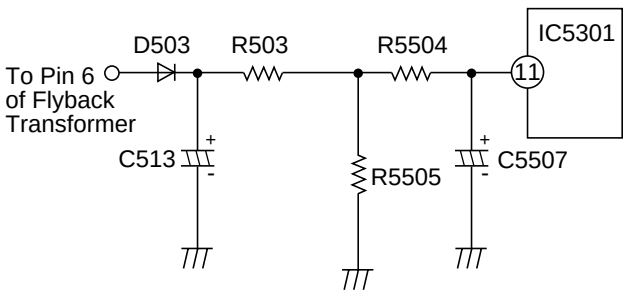


Figure 2

PREVENTION OF ELECTRO-STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors are semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

CAUTION:

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

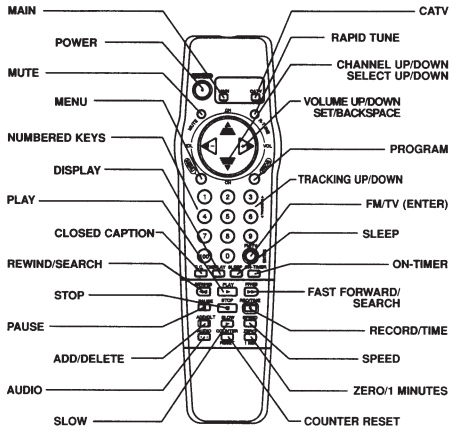
"NOTE to CATV system installer :

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical."

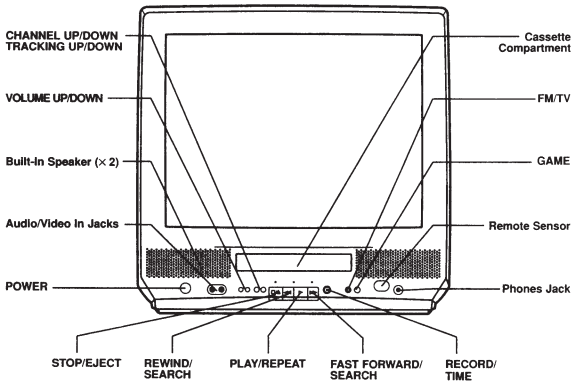
OPERATION GUIDE

Location of Controls

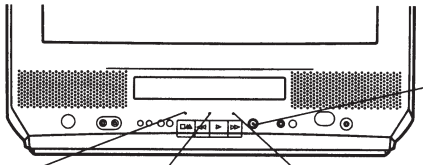
Remote Control Buttons



Front View of the Combination VCR



Indicators on the Front Panel



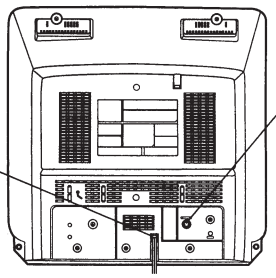
RECORD Indicator
Lights during recording. In Rec Pause or OTR Pause mode, the indicator flashes.

ON TIMER Indicator
Lights when the On Timer is set.

REPEAT Indicator
Lights when "REPEAT PLAY: ON" is selected and playback is in progress.

PROGRAM TIMER Indicator
Lights when the Combination VCR is set for Timer Recording. It flashes when a Timer Recording has been set, with no tape inserted, the clock is not set, or the tape is in motion.

Rear View of the Combination VCR



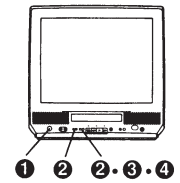
AC Power Plug
When plugged into an AC outlet, the Combination VCR consumes 6 W of electric power in OFF condition.

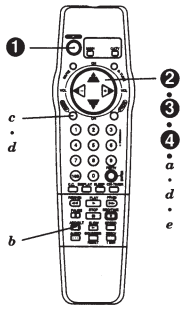
VHF/UHF Antenna Input Terminal
In from your Antenna or Cable.

One Time Setup

Check list before you begin.

☐ Your Combination VCR is connected to an Antenna, or Cable system .





Using the ▲▼◁▷ keys

Whenever a menu or program screen is displayed, CHANNEL UP/DOWN and VOLUME UP/DOWN on the remote control function as ▲ ▼ ◁ ▷ only. For VOLUME UP/DOWN functions, use the buttons on the Combination VCR.

To Set Language, Channels, and Clock

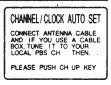
When the Combination VCR power is first turned on the channel auto set and set clock screens appear automatically.

1 Push POWER to turn the Combination VCR on.

2 Push ▲ , ▼ or ▷ for on-screen displays in English, Spanish or French.

- If you choose the wrong language, please see the "Reset all Combination VCR Memory Functions" section .
- If you use a cable box, the cable box must be left on for auto channel set.

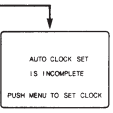
3 **Important: If you use a cable box, turn it on and select PBS station in your time zone.**
Push ▲ to start Channel Auto Set and Clock Auto Set.


CHANNEL/ CLOCK AUTO SET
CONNECT ANTENNA CABLE AND IF YOU USE A CABLE BOX, TUNE IT TO YOUR LOCAL PBS CH . THEN,
PLEASE PUSH CH UP KEY

These on-screen displays will appear in sequence.
- CH AUTO SET PROCEEDING
- CH AUTO SET COMPLETED
- AUTO CLOCK SET PROCEEDING

Case 1

or Case 2



4 Case 1 Confirm that displayed time is correct and push ▲ to exit.

If the displayed time and D.S.T. are incorrect,
In the rare event that you live within broadcast range of two PBS stations in two different time zones, the Combination VCR may recognize the wrong PBS station. To correct this situation, do the following:

a. Make a note of the SETTING: CH number shown on-screen and push ▲ to exit.
b. Delete the setting channel from the Combination VCR channel memory. (See the Add or Delete a Channel section on the next page.)
c. Push MENU to display the menu.
d. Push ▲ ▼ ◁ ▷ to select "CLOCK," and then push MENU to display the SET CLOCK screen.
- If you use a cable box and have multiple PBS stations, tune the cable box to a different PBS station and try auto clock set again using the menu.

e. Push ▲ ▼ to select "AUTO SET," and then push ▷ to set and to ▲ start.

NOTES
- Auto clock set will be performed when the Combination VCR is turned off the first time each day. If you use a cable box and you want auto clock set to be performed, the cable box must be left on and tuned to the PBS channel at the time the Combination VCR power is turned off.
- If for any reason the time is changed manually, automatic time correction will not occur.

Case 2 If AUTO CLOCK SET IS INCOMPLETE appears, please set the clock manually.

a. Push MENU to display the SET CLOCK screen.
b. Push ▲ ▼ to select and ▷ to enter the month, date, year, time, and D.S.T. (Daylight Saving Time).

To Make Corrections,
push ◁ ▷ repeatedly to move back or forward to the desired item.

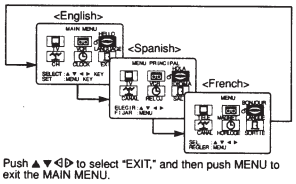
c. Push MENU to start the clock. Then, push ▲ ▼ ◁ ▷ to select "EXIT." Now, push MENU to exit the MAIN MENU.

- "DST:ON" automatically adjusts for daylight saving time.

To Change or Re-enter One Time Setup Items

To Change the OSD Language

1 Push MENU to display the MAIN MENU.
2 Push ▲ ▼ ◁ ▷ to select the language selection icon.
3 Push MENU repeatedly to change the language as shown.

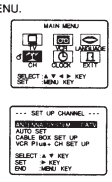


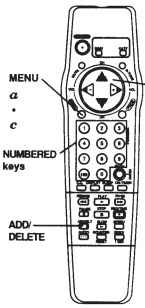
4 Push ▲ ▼ ◁ ▷ to select "EXIT," and then push MENU to exit the MAIN MENU.

To Replace Channels in Memory

In case, you have cable installed, etc.

1 Push MENU to display the MAIN MENU.
2 Push ▲ ▼ ◁ ▷ to select "CH," and then push MENU to display the SET UP CHANNEL screen.
3 Push ▲ ▼ repeatedly to select ANTENNA SYSTEM, and then push ▷ to select your antenna system (TV or CATV).
4 Push ▲ ▼ to select AUTO SET, and then push ▷ to start.
- To exit this mode, push MENU. Then, push ▲ ▼ ◁ ▷ to select "EXIT." Now, push MENU to exit the MAIN MENU.

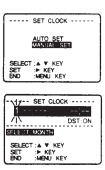




To Set or Reset the Clock

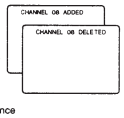
In case the clock is wrong, or a power failure occurred.

1 Push MENU to display the MAIN MENU.
2 Push ▲ ▼ ◁ ▷ to select "CLOCK." Then, push MENU to display the SET CLOCK screen.
3 Push ▲ ▼ to select "MANUAL SET," and then ▷ to display the SET CLOCK screen.
4 Please do steps *b* and *c* at the top of this page.



To Add or Delete a Channel

1 Select a channel using the NUMBERED keys to add or the CH ▲ ▼ to delete.
2 Push the ADD/DLT to add or delete the channel.
- To select a channel once it's deleted, use the NUMBERED keys.

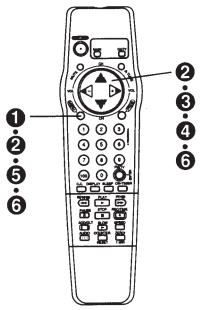


NOTES
- This Combination VCR will accurately maintain its calendar up to Dec. 31, 2089, 11:59PM.
- Normal TV or Cable channels are automatically selected and placed in memory depending on how your Combination VCR is hooked up.

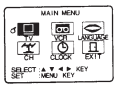
Picture Adjustment

Check list before you begin.

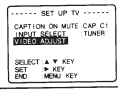
- ☐ All connections are made .
- ☐ Your Combination VCR is plugged in.



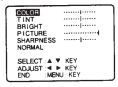
1. Push MENU to display the MAIN MENU.



2. Push ▲▼◁▷ to select "TV," and then push MENU to display the SET UP TV screen.
3. Push ▲▼ to select "VIDEO ADJUST," and then push ▷ to display the VIDEO ADJUST screen.



4. Push ▲▼ repeatedly to select the desired adjust item, and then push ◁▷ to adjust. (See description below.)



Picture Adjustment

COLOR Control
To adjust the intensity of the colors.

TINT Control
To adjust for the most natural fleshtones.

BRIGHT Control
To adjust the brightness of the picture.

PICTURE Control
To adjust the intensity of the picture by adjusting contrast and color level at the same time and in the proper balance.

SHARPNESS Control
To adjust the sharpness of the picture.

To Reset Picture Controls to the Factory Setting

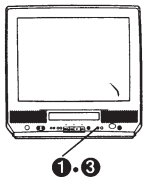
Push ▲▼ and ▷ to select and set NORMAL.
All controls return to factory settings.

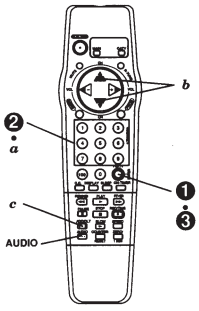
5. Push MENU twice to exit the VIDEO ADJUST mode.
   - If no button is pushed within 5 minutes, the video adjust overlay disappears.
6. Push ▲▼◁▷ to select "EXIT," and then push MENU to exit the MAIN MENU.

FM Radio

Check list before you begin.

- ☐ All connections are made .
- ☐ Your Combination VCR is plugged in.



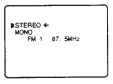


AUDIO

FM Radio Feature

The Combination VCR has an FM radio with built-in antenna, 9 station preset, and a band range of 87.5~108.1 MHz. You can even set the On Timer to wake up to your favorite music station.

1. FM/TV ENTER — Push FM/TV on the remote control or Combination VCR to select FM Radio mode.
   - This screen changes to a black screen after 10 seconds.

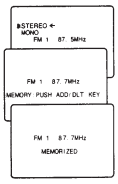


To Memorize Stations

a Push NUMBERED keys (1~9) in FM Radio mode.

b Push ▲▼ to select desired radio station.
(Each push changes the frequency by 200 KHz.)

c Push ADD/DLT to memorize the desired station.
- To memorize other positions, repeat steps a~c.

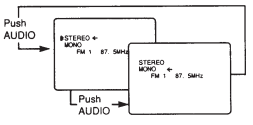


2. Push the Numbered key (1~9) to select a memorized channel (see above).
3. Push FM/TV on the remote control or Combination VCR again to exit the FM Radio mode.

To Select Audio Mode for FM Radio

Push AUDIO in FM Radio mode to select "STEREO" or "MONO". Arrow points to current mode.

< Example >



NOTES

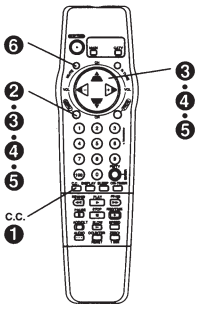
- You can not record FM radio stations on the Video Cassette tape.
- You may get improved FM reception for some stations by repositioning the Combination VCR.
- You can not set to FM Radio mode in the Playback, Recording, and Blue Back OSD screens (MENU, PROGRAM, ON-TIMER, and VCR Plus+).

Closed Caption System

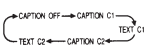
This multi-use system not only allows the hearing impaired to enjoy selected programs, but also makes useful information from TV stations available to everyone.

Check list before you begin.

- ☐ All connections are made .
- ☐ Your Combination VCR is plugged in.



C.C. Push C.C. repeatedly to select the desired Caption Mode (see "Caption Mode description" below).
- Selected mode is displayed on screen.
- Each push of C.C. will change the Caption Mode as shown at right:



Closed Caption Modes to Choose From

Caption Mode: CAPTION C1 or C2
A narration of selected TV programs will be displayed on the screen. Check your TV program listings for C.C. (Closed Captioned) broadcasts.

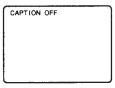
Caption Mode: TEXT C1 or C2
The lower half of the screen will be blocked out. When the TV station broadcasts text, such as program listings, special information, etc., it will appear in this space.

Caption Mode: OFF
Narration will not appear on the screen even if a closed caption or text broadcast is received.
- The closed caption or text signal may be broadcast over C1, C2, or both. Also, text contents can vary so you may wish to try different settings.

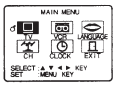
Caption On Mute Feature

This feature allows you to turn off the sound and, at the same time, display Closed Caption narration. Perfect for when you need silence, but would like to continue enjoying the program.

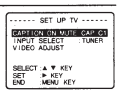
1. C.C. — Push C.C. until CAPTION OFF is displayed on screen.



2. Push MENU to display the MAIN MENU.



3. Push ▲▼◁▷ to select "TV," and then push MENU to display the SET UP TV screen.
4. Push ▷ repeatedly to select the desired caption on mute mode, and then push MENU to exit the SET UP TV screen.
   - Each push of ▷ will change the display as shown at right.



5. Push ▲▼◁▷ to select "EXIT," and then push MENU to exit the MAIN MENU.
6. Push MUTE to instantly mute the sound. The closed caption narration is displayed on the screen.
   - Push MUTE again to resume normal sound and picture.
   - Not all programs have Closed Caption information, therefore, narration may not be displayed.

Recording and Playing Back a Closed Caption/Text Program

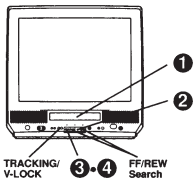
Record: Your Combination VCR will automatically record the Closed Caption/Text signal. Just follow normal recording operation.

Playback: To display the Closed Caption narration or Text during playback, simply push C.C. until desired Caption Mode is displayed.

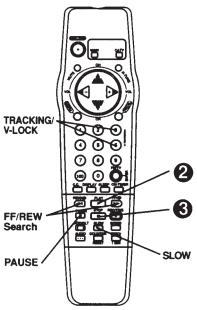
Playback a Tape

Check list before you begin.

- ☐ All connections are made .
- ☐ Your Combination VCR is plugged in.

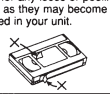


TRACKING/ V-LOCK ③·④ FF/REW Search

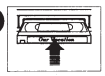


TRACKING/ V-LOCK
FF/REW Search
PAUSE
SLOW

Caution:
Please inspect your cassette tapes for any loose or peeling labels as they may become jammed in your unit.



1. Insert a cassette.
   - Combination VCR power comes on automatically.



2. PLAY — Push PLAY on the remote control or Combination VCR to start playback.
   - Playback begins automatically if cassette has no record tab .
3. STOP — Push STOP on the remote control or Combination VCR to stop playback.
4. Push STOP/EJECT on the Combination VCR to eject the cassette.
   - You may eject a cassette with power on or off.

To Find a Particular Scene During Playback

REW/⏪ or FF/⏩ Push REW or FF on the remote control or Combination VCR to quickly locate a scene.
- SP mode tapes have a search speed of 9 times and SLP mode 27 times the normal speed.
- Some noise bars will appear during search.

Special Effects During Playback

These features work best in SP or SLP mode. The sound will be muted.

Slow Motion Playback
Push SLOW to start slow motion playback. Push PLAY or SLOW to release.

Still (Freeze) Frame Picture
Push PAUSE to freeze and release the picture.
- To reduce picture noise, first push SLOW. Then, use the 3 or 6 NUMBERED keys on the remote control or CH UP/DOWN on the Combination VCR to clear up the picture, then push PAUSE.

Frame by Frame Advance
While in Still mode, push SLOW repeatedly or hold down to advance the still picture one frame at a time. Push PAUSE or PLAY to release.

(After the Combination VCR is in Still or Slow mode for 3 minutes, it will switch to the Stop mode automatically to protect the tape and the video head.)

Features for a Quality Picture

Digital Auto Tracking
This feature continuously analyzes the signal and adjusts for optimum picture quality.

Manual Tracking Control
Use during Playback and Slow Motion mode to reduce picture noise.
Push the 3 or 6 NUMBERED keys on the remote control or CH UP/DOWN on the Combination VCR until the picture clears up.
To return to Auto Tracking, push POWER off and then on again.

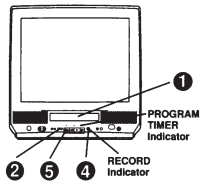
V-Lock Control
In Still mode the 3 or 6 NUMBERED keys on the remote control or CH UP/DOWN on the Combination VCR operate as a V-Lock control to reduce jitter. Push one of these keys until the picture is stabilized.

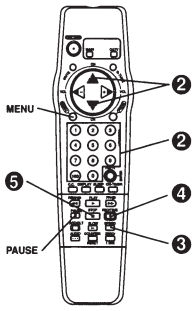
PanaBlack™ Picture Tube
This Combination VCR uses a PanaBlack™ picture tube for better color reproduction and picture contrast.

Record On a Tape

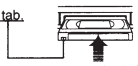
Check list before you begin.

☐ All connections are made .
☐ Your Combination VCR is plugged in.





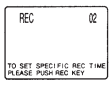
1 Insert a cassette with record tab.
- The Combination VCR power comes on automatically.



2 Push ▲ ▼ or NUMBERED keys on the remote control to select a channel.
or
- Or, push CH UP/DOWN on the Combination VCR.
- To record from an outside source, push ▲ ▼ to select LINE (see below).

3 SPEED — Push SPEED until the desired speed appears on-screen.
SP = Standard Play
LP = Long Play
SLP = Super Long Play

4 REC/TIME — Push REC/TIME on the remote control to start recording.
- Or, push REC/TIME on the Combination VCR.
- To edit out unwanted portions, push PAUSE to pause the recording in progress. To release, push PAUSE again.



One Touch Timer Recording (OTR)
The Combination VCR stops recording at a preset time.
In step 4, push REC/TIME repeatedly to set the length of the recording. Each push will change the time as shown.

Normal Rec → 0:30 → 1:00 → 1:30 → 2:00 → 3:00 → 4:00

- PROGRAM TIMER indicator lights on the front panel.

5 STOP — Push STOP on the remote control to stop recording.
- Or, push STOP/EJECT on the Combination VCR.

NOTES
- While it is possible to change the tape speed when you are recording, there will be some distortion on the tape where the change occurred.
- The remaining recording time can be displayed by pushing DISPLAY in OTR mode.
- After the Combination VCR has been in Rec Pause mode for 5 minutes, it will stop automatically to protect the tape and video head.

Selecting the Input Mode
You can select the Input Mode in one of two ways.

■ Push ▲ ▼. The display will change in the order below.

1 (CATV) — 2 (CATV) — 3 (TV) — 125 or 69 — LINE — 1 (CATV)

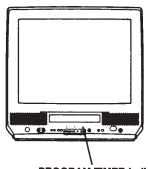
■ a. Push MENU to display the menu.
b. Push ▲ ▼ ◁ ▷ to select "TV," and then push MENU to display the SET UP TV screen.
c. Push ▲ ▼ to select "INPUT SELECT," and then push ▷ repeatedly to select "TUNER" or "LINE."

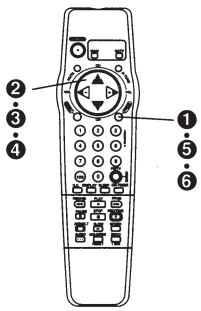
Timer Recording

Your Combination VCR can be set up to do a recording while you are away or otherwise occupied. Up to 8 programs can be placed in memory. You can choose to record one time, daily, or weekly.

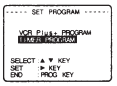
Check list before you begin.

☐ All connections are made .
☐ Your Combination VCR is plugged in.
☐ The clock is set.
☐ The tape is long enough.
☐ The record tab is in place.

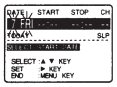




1 Push PROG to display the "SET PROGRAM" screen.



2 Push ▲ ▼ to select "TIMER PROGRAM," and then push ▷ to display the program screen.
- If a program is already in memory, push ▲ ▼ repeatedly, and then ▷ to select an unused program number.



3 Push ▲ ▼ and ▷ to select and set one of the following:
1~31 = One time recording
DAILY = Same time MON ~ FRI
WEEKLY = Same time once a week

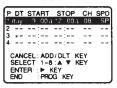
Example
Today's Date 7 — SELECT ▲ / ▼ Selection Order: 8 — 9 ····· 31 — 1 — 2 ····· 6 — DAILY — WEEKLY (SAT) ····· WEEKLY (MON) — WEEKLY (SUN)

4 Push ▲ ▼ and ◁ ▷ to select and set each of the remaining items at right.

Remaining Items:
- START time
- STOP time
- CH(annel) number, or LINE for outside source recording
- Speed (SP, LP, SLP)

To Make Corrections
Repeatedly push ▷ to move the cursor to the right, or ◁ to move to the left to the incorrect entry and make the correction.

5 Push PROG to end the program.
- This screen appears for confirmation.



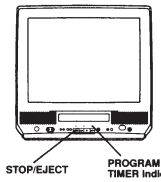
To Enter More Programs
Push ▲ ▼ and ▷ to select and set a blank program number, and then repeat steps 3 and 4.

6 Push PROG twice to return to the normal screen.
- The PROGRAM TIMER indicator lights on the front panel.
- If you're using a cable box, make sure that it is tuned to the desired channel and the power is left on for timer recording.

Two minutes before the Timer Recording starts, "TIMER REC WILL START SOON" will appear on-screen.

Timer Recording

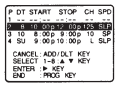
Cancel a Timer Recording:
(Recording is in progress)
Hold down STOP for a few seconds to cancel the Timer Recording.
- Any future daily or weekly recordings will be performed as programmed.



Replace Program Contents:
(Recording is not in progress)

1 Do steps 1 and 2 on previous page. All currently set programs will be displayed on-screen.

2 Push ▲ ▼ repeatedly to select the desired timer recording, and then push ▷ to display the settings.



3 Push ▲ ▼ repeatedly to select, and then push ▷ to enter replacement information.

4 Push PROG three times to exit this mode and return to the normal TV screen.

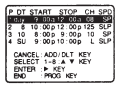
Review or Clear Program Contents:
(Recording is not in progress)

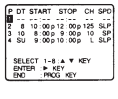
a. Do steps 1 and 2 on previous page. All currently set programs will be displayed on-screen.

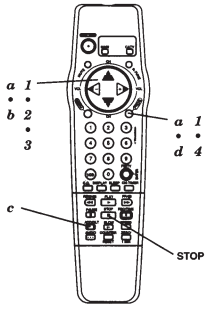
b. Push ▲ ▼ repeatedly to select the desired program number.

c. Push the ADD/DLT to clear the program.

d. Push PROG twice to exit this mode and return to the normal TV screen.





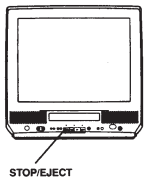


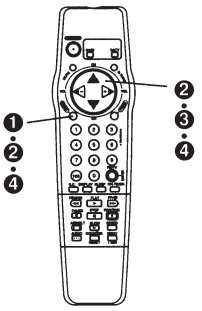
NOTES
- If "PLEASE PREPARE FOR TIMER REC" appears and/or the PROGRAM TIMER indicator flashes, check that a cassette with record tab is loaded and the Combination VCR is in Stop mode.
- If the start times of two programs overlap, the lower numbered program will have priority.
- If the start time for a timer recording comes up during a normal recording or One Touch Recording , the timer recording will not be performed.
- If there is a power interruption of more than one minute, the recording may not be performed or continue.
- If "INCOMPLETE" appears after all items have been set, check all entries and make necessary corrections.

Special VCR Features

Check list before you begin.

☐ All connections are made .
☐ Your Combination VCR is plugged in.

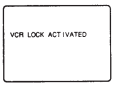




VCR Lock Feature

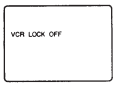
When activated, this feature prohibits all operations except for timer recording and tape eject. This feature is used to keep children from operating the Combination VCR.

Hold down STOP/EJECT on the Combination VCR for 7 seconds during Stop or Power OFF mode.



To Cancel the VCR Lock feature,

Hold down STOP/EJECT on the Combination VCR for 7 seconds again during Stop or Power OFF mode.

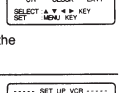


- VCR Lock mode is cancelled automatically after 24 hours as long as the clock is set.
- This feature cannot be activated or cancelled when a timer or one touch recording is in progress.

Warning Beeper Feature

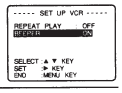
When you select BEEPER ON, a short warning will sound each time an invalid entry or incomplete operation is made.

1 Push MENU to display the MAIN MENU.



2 Push ▲ ▼ ◁ ▷ to select "VCR," and then push MENU to display the SET UP VCR screen.

3 Push ▲ ▼ to select "BEEPER," and then push ▷ to select "ON" or "OFF."



4 Push MENU to end, and then push ▲ ▼ ◁ ▷ to select "EXIT." Now, push MENU to exit the MAIN MENU.

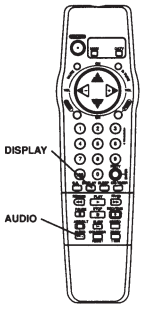
MTS Broadcast/TV Stereo System

Check list before you begin.

☐ All connections are made .

☐ Your Combination VCR is plugged in.

IMPORTANT NOTE:
This stereo system is designed for TV viewing only. Recording and playback will always be in monaural.



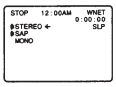
Receivable Broadcast Types

The following are possible broadcast types with their accompanying on-screen displays. The signal being received is indicated with an "▮" mark while the selected audio mode is indicated with an arrow. To change the audio mode for these broadcasts, follow the "Select Audio Mode for TV Viewing" section. (below)

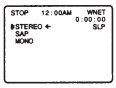
DISPLAY

Push DISPLAY to display the broadcast signal currently being received.

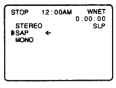
MTS Stereo and SAP broadcast
Multi-channel Television Sound Stereo (main language) and Secondary Audio Program (sub language) broadcasts are being received simultaneously. Select the STEREO or SAP audio mode as desired.



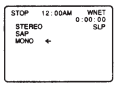
MTS Stereo broadcast
Multi-channel Television Sound Stereo broadcast is being received. Select the STEREO audio mode.
- If a stereo broadcast is weak and the display flickers, you may want to select the MONO audio mode for better results.



SAP broadcast
Secondary Audio Program (sub language) broadcast is being received. Select SAP audio mode for the sub language.



MONO broadcast
Normal monaural sound broadcast is being received.

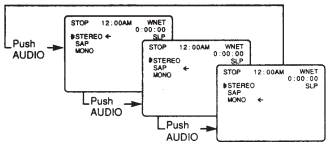


Select Audio Mode for TV Viewing

AUDIO

Push AUDIO to select the desired audio mode as described above. (Arrow shows selection.)
- Each push of AUDIO will change the audio mode as shown below.

< Example >



VCR Plus+ Setup

Easy Taping.

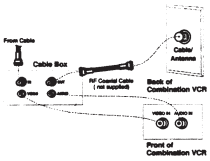
VCR Plus+ programming allows you to set most items of a timer recording by simply entering a special code (PlusCode) found in *TV GUIDE* magazine as well as the TV listings in selected newspapers. In order for your Combination VCR to do a VCR Plus+ recording, or a timer recording of cable stations, some setup is required.

At first, choose your Connection Type.

(Then, follow the instructions under the diagram.)

Connection Type A

<CABLE BOX → COMBINATION VCR>

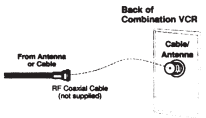


If your system looks like this, do the following.

1. **Complete the "Cable Box Setup" section at right.**
2. **Go directly to VCR Plus+ Programming.**

Connection Type B

<CABLE or ANTENNA → COMBINATION VCR>



If your system looks like this, do the following.

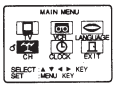
1. **Skip the "Cable Box Setup" section at right .**
2. **Complete the "VCR Plus+ Channel Setup" section .**
3. **Turn to VCR Plus+ Programming.**

VCR Plus+ and PlusCode are trademarks of Gemstar Development Corporation. The VCR Plus+ system is manufactured under license from Gemstar Development Corporation.

Cable Box Setup

For Connection Type A (see left) only

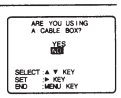
1. Push MENU to display the MAIN MENU.



2. Push ▲ ▼ ◁ ▷ to select "CH," and then push MENU to display the SET UP CHANNEL screen.

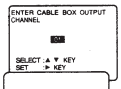
3. Push ▲ ▼ to select "CABLE BOX SET UP," and then ▷ to set.

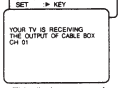
4. Push ▲ ▼ to select "YES" or "NO," and then push ▷ to set.



Select YES if all channels are received via the cable box (connection "A" at left). Then, go to step 5.
Select NO if your cable connection "B" at left. Push MENU to exit .

5. Push ▲ ▼ to select Cable box output channel number, and then push ▷ to enter.





- If necessary, refer to your cable box manual.
- If you are using Audio/Video jack connection for your cable box, select and set "VIDEO OUT" as the output channel.
- This display appears for 5 seconds. (Channel shown is example only)

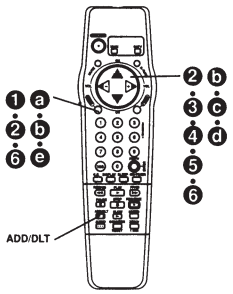
6. Push MENU to exit this mode and then, push ▲ ▼ ◁ ▷ to select "EXIT." Now, push MENU to exit from the MAIN MENU.

Go directly to VCR Plus+ Programming

VCR Plus+ Setup

Easy Taping.

In order for the Combination VCR to read the VCR Plus+ code, some setup is required. A Guide (VCR Plus+) channel number is assigned to each local broadcast and cable station. Because this number sometimes differs from the channel your TV receives the station on, it is necessary to program the Combination VCR with local channel information.



Channel Setup Preparations

NOTE:
Complete the steps on this page if your Combination VCR hook-up resembles "B" .

Prepare a list like the example below.
This list will help you smoothly enter the information needed in step "d" at right.

You will need the following to complete the list:

- A line up of normal and/or cable stations you receive along with the channel numbers your TV receives them on. A cable channel line-up chart is supplied by your cable company.
- A list of Guide (VCR Plus+) channel numbers assigned to the stations you receive. This list is available in TV Guide and the TV listings found in selected newspapers.

1 Make a chart with 3 columns like the example below. In the left column, fill in the name or call letters of the stations you receive.

2 In the middle column, fill in each station's assigned Guide (VCR Plus+) number found in TV Guide, newspapers, etc.

3 In the right column, fill in the channel number that your TV receives the station on from your channel line-up.

< EXAMPLE ONLY >

Broadcast or Cable Station Name	Assigned Guide (VCR Plus+) channel no.	Channel no. your TV receives the station on
HBO	33	15
Nickelodeon	38	20
CBS	34	04
FOX	11	

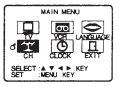
VCR Plus+ Channel Setup

For Connection Type B only

- **Before you begin, complete the Channel Setup Preparations below left.**

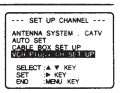
Important Note:
If your Combination VCR Connection type changes, from Type A to B, repeat step 4 of previous page, select "NO".

a Push MENU to display the MAIN MENU.



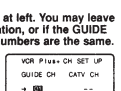
b Push ▲ ▼ ◁ ▷ to select "CH," and then push MENU to display the SET UP CHANNEL screen.

c Push ▲ ▼ to select "VCR Plus+ CH SET UP," and then push ▷ to display the "VCR Plus+ CH SET UP" screen.



IMPORTANT NOTE:
For step "d", use the list you prepared at left. You may leave lines blank if you don't receive that station, or if the GUIDE CH number and the CATV (or TV) CH numbers are the same.

d Push ▷ to move the shaded area to the right side.



Then, push ▲ ▼
to change the CATV(or TV) CH number.
Next, push ◁
to set the CATV(or TV) CH number.
Now, push ▲ ▼
to continue. Repeat this operation until the list is complete.

To Make Corrections
Push ▲ ▼ and ▷ to select the incorrect CATV or TV CH number. Then, push ▲ ▼ to change, or ADD/DLT to delete the channel.

e Push MENU twice to exit the VCR Plus+ CH SET UP. Then, push ▲ ▼ ◁ ▷ to select "EXIT." Now, push MENU to exit the MAIN MENU.

NOTES
- Make each entry within 5 minutes or the Combination VCR will leave this mode.
- Once local channels have been programmed, they will stay in memory, even in the case of a power failure.

VCR Plus+ Programming

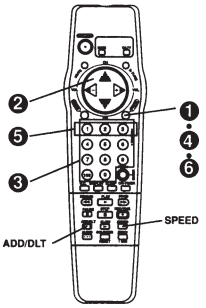
Easy Taping.

Before you begin, make sure...

☐ The clock is set.

☐ VCR Plus+ Set Up is complete .

PROGRAM TIMER Indicator

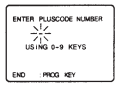


Use normal Timer Recording steps if:
- the PlusCode for a program is not listed.
- you anticipate the program, such as a sporting event, to run over the scheduled stop time.

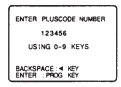
See Timer Recording :
- cancel a timer recording in progress.
- replace program contents.
- review or clear program contents once set.

1 Push PROG to display the "SET PROGRAM" screen.

2 Push ▲ ▼ to select "VCR Plus+ PROGRAM," and then push ▷ to display the Plus Code screen.



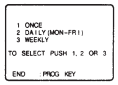
3 Push NUMBERED keys to enter the PlusCode number from your local TV listings.



To Make Corrections
Push ◁ repeatedly to delete the PlusCode number. Then, enter the correct number.

4 Push PROG to lock in your program.

5 Push the **1, 2, or 3** key to select the program type.

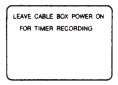


To Change the Recording Speed
Push SPEED for SP, LP, or SLP.

To Cancel Program Contents
Push ADD/DLT.

- If you use connection type "A" , the channel shown in this on-screen display will always be the cable box output channel number.

6 Push PROG three times to complete the program.



- The PROGRAM TIMER indicator lights on the front panel.
- If you're using a cable box, make sure that it is tuned to the desired channel and the power is left on for timer recording.
- This display appears if you use a cable box.

NOTES
- For a list of publications that carry the PlusCode numbers in your area, call 1-800-258-4827.
- You can obtain unlisted PlusCode numbers by calling 1-900-454-7587. Call costs approximately $.95 per minute.
- Avoid overlapping program times.
- An on-screen display will indicate if an invalid PlusCode number has been entered.
- An on-screen display will indicate when all timer programs are full.

SERVICE NOTES

Simplified Fault Finding Data

Simplified Self-Diagnostic System facilitates finding the cause of the fault. 4 digit fault code will be displayed on TV screen. The Simplified Fault finding data is stored in the Memory IC (IC6004). This data is cleared after it is displayed and then, the POWER button is pressed back on.

1. With power turned off, press FF and REW buttons on unit together for over 3 seconds.

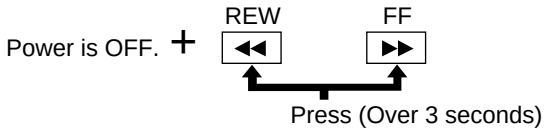


Fig. 1-1

2. TV power goes on and the unit goes into service mode. Fault code indication (4 digit number) will be displayed.

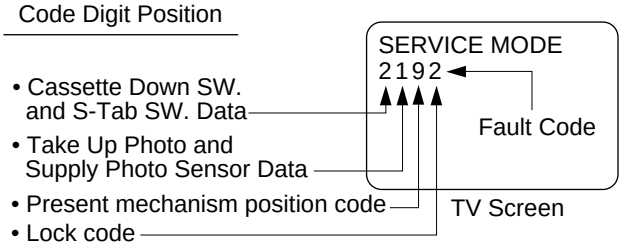
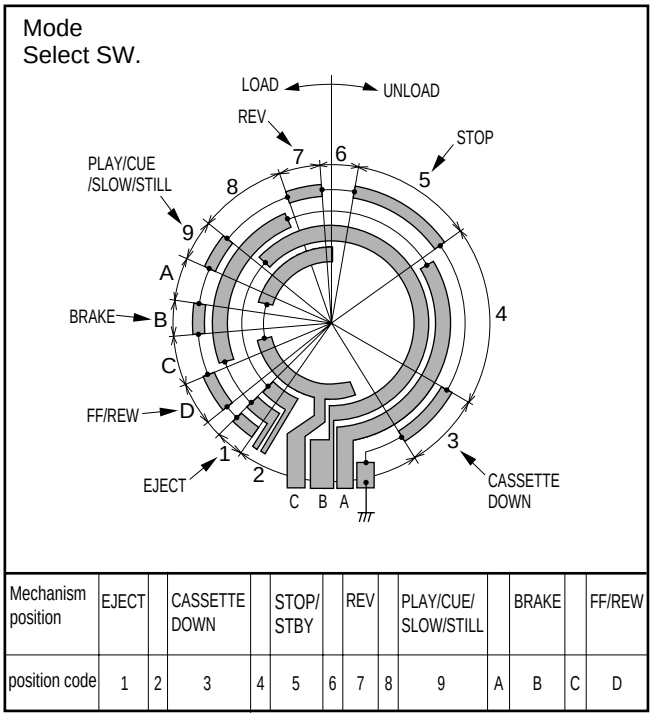


Fig. 1-2

Explanation of Codes	Code No.			
S-Tab SW. Data • S-Tab SW. is off. • S-Tab SW. is on.	 1 2			
Take Up and Supply Photo Sensor Data • No light detected at either sensor. • Take Up Photo Sensor detected at beginning of tape. • Supply Photo Sensor detected at end of tape. • Light detected at both sensors.		 1 2 3 4		
Present Mechanism Position Code Mechanism Position is indicated. (Refer to Fig. 1-4.)			1 2 3 4 5 6 7 8 9 A B C D	
Lock Code • VCR is not in shut-off condition. • Reel lock. • Cylinder lock. • Exceeds loading/unloading time. (Mechanism Lock) • Exceeds Cassette loading/unloading time. (Cassette Lock) Tape Unloading (direction) Tape Loading (direction)			 1 2	0 1 2 3 4 4

Fig. 1-3



Mechanism position	EJECT		CASSETTE DOWN		STOP/ STBY		REV		PLAY/CUE/ SLOW/STILL		BRAKE		FF/REW
position code	1	2	3	4	5	6	7	8	9	A	B	C	D

Fig. 1-4

Note:
When 1 to 4 listed in Lock code occurs, the VCR stops and all VCR function buttons except for power become non-operational.

3. Press any operation button except for POWER on either the unit, or the remote to detect that a key has been pressed.
The 1st digit changes to "0" only when key is detected.

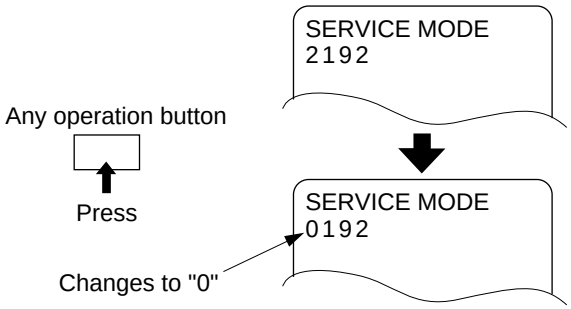


Fig. 1-5

Service Position

The Basic Service Position does not require the use of Extension Cables. However, for more extensive servicing, Extension Cables should be used.

1. Basic Service Position

Service Position	Purpose
Service Position (1)	Mechanism check Mechanical adjustment Electrical adjustment
Service Position (2)	Main C.B.A. check TV Main C.B.A. check

CAUTION:

HOT CIRCUIT (Primary circuit) exists on the Main C.B.A. and TV Main C.B.A.
Use extreme care to prevent accidental shock when servicing.

Note:
When disassembling/assembling, refer to "Disassembly/Assembly Procedures of Cabinet" section.

Service Position (1)

1. Remove Rear Cover, VCR Unit, (Stereo Amp C.B.A.: Model I), and Top Shield Plate Ass'y.
2. Then, place VCR Unit as shown.

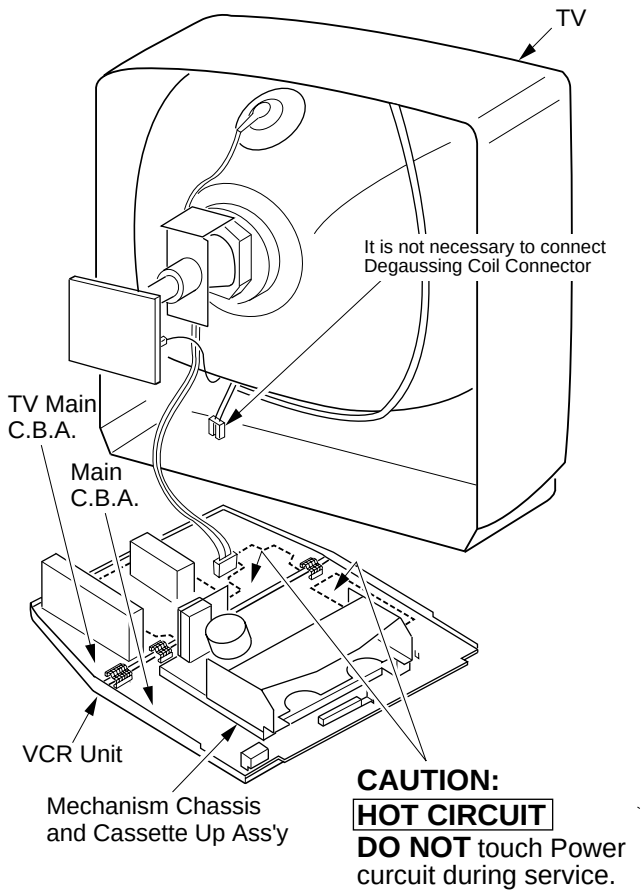


Fig. 2-1

Service Position (2)

1. Remove Rear Cover, VCR Unit, (Stereo Amp C.B.A.: Model I), and Top Shield Plate Ass'y.
2. Place VCR Unit as shown.
   In order to stabilize VCR Unit, place it on a slanted support, such as a loose-leaf binder etc.

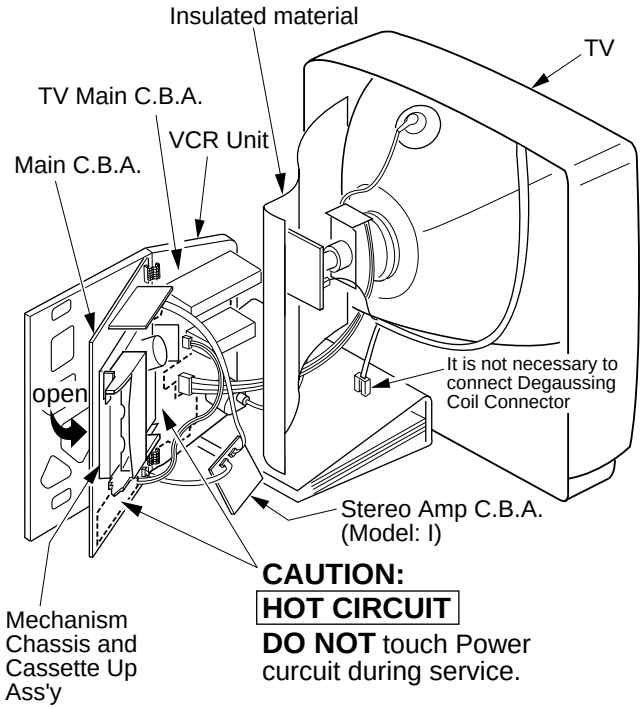


Fig. 2-2

2. Service Position with Extension Cable Kit

In Service Position with Extension Cable Kit, mechanism check from the Bottom Side of Mechanism Chassis and Capstan Stator Unit (Capstan Motor Drive, Loading Motor Drive Circuit) check with power on condition can be performed.

Service Position

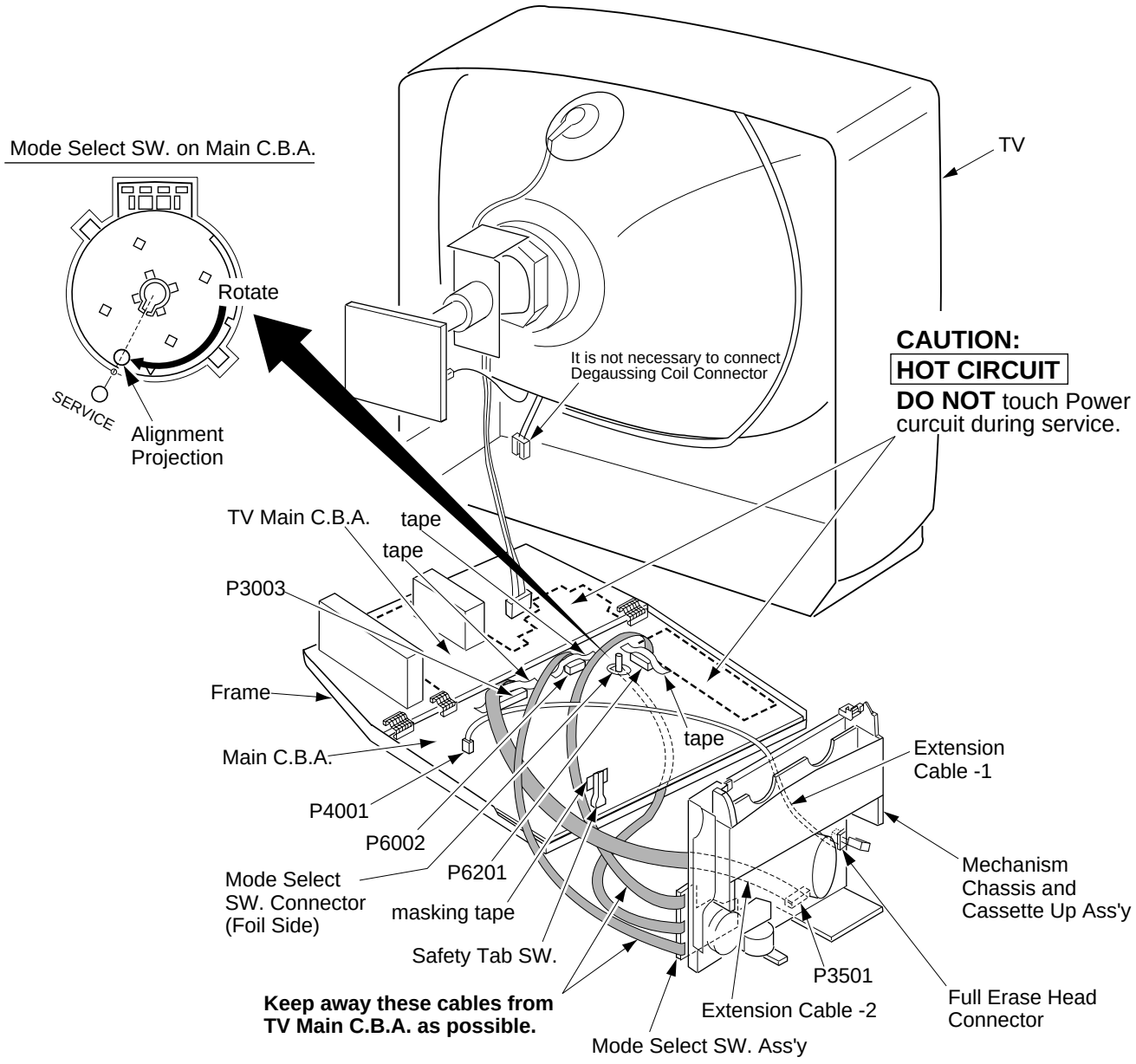


Fig. 3-1

CAUTION:

HOT CIRCUIT (Primary circuit) exists on the Main C.B.A. and TV Main C.B.A.
Use extreme care to prevent accidental shock when servicing.

Note:
When disassembling/assembling, refer to "Disassembly/Assembly Procedures of Cabinet" section.

Extension Cable Kit (VUZS0002)

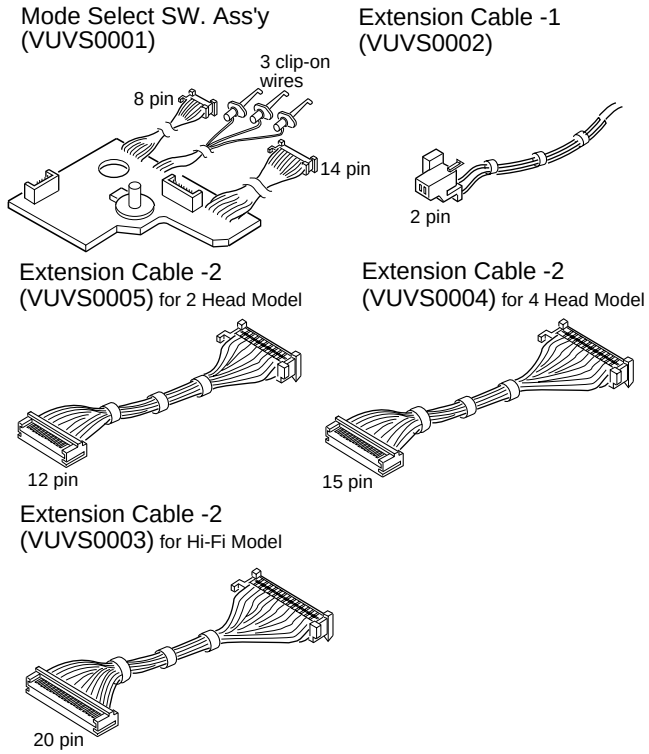


Fig. 3-2

Note:
3 types of Extension Cable -2 are included in this kit. Since there is a difference in the number of P3501 Head Amp C.B.A. pins between 2 Head, 4 Head, and Hi-Fi models, be sure to use the proper cable.

How to place the unit into Service Position with Extension Cables

1. Remove Rear Cover, VCR Unit, (Stereo Amp C.B.A.: Model I), Top Shield Plate Ass'y, Mechanism Chassis, and Cassette Up Ass'y.
2. Connect the Extension Cables as follows:

- Extension Cable -1: Full Erase Head Connector on the Mechanism Chassis Unit ~ P4001 on the Main C.B.A.
  Note: No change in performance if pins are reversed.
- Extension Cable -2: P3501 on the Head Amp C.B.A. ~ P3003 on the Main C.B.A.
- Mode Select SW. Ass'y: a) 3 Clip-on Wires ~ Mode Select SW. Connector on the Main C.B.A.

	1 Pin (Not Used)
Red Wire	~ 2 pin
Orange Wire	~ 3 pin
Yellow Wire	~ 4 pin

  b) 8 Pin Connector ~ P6002 on the Main C.B.A.

  c) 14 Pin Connector ~ P6201 on the Main C.B.A.

  d) Set Mode Select SW. on the Mode Select SW. Ass'y to EJECT position and install onto Mechanism Chassis.

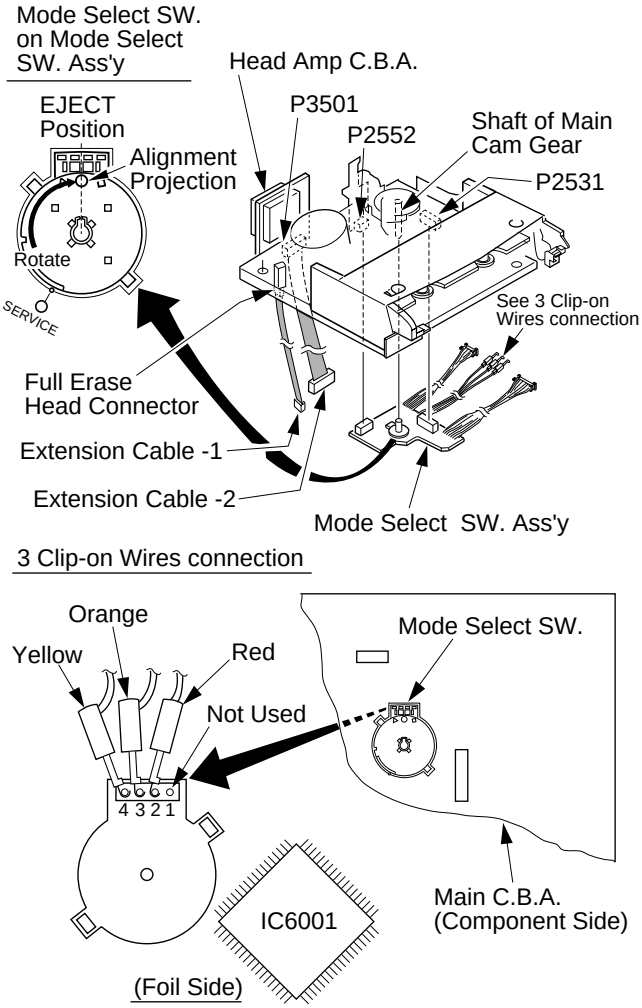


Fig. 3-3

3. Place the VCR Unit as shown in Fig. 3-1.
4. Secure the Extension Cables with tape as shown

in Fig. 3-1. When recording, cover the Safety Tab SW. with masking tape to turn this SW. on.
   Note:
   To avoid damaging the connectors on Main C.B.A., it is necessary to secure connectors with tape as shown in Fig. 3-1.
5. Set Mode Select SW. on the Main C.B.A. to Service Position.
6. Plug the AC plug into an AC outlet.
7. Insert a cassette.
   The power comes on, the tape is fully loaded, and the unit goes into the STOP Mode.
8. Place a jumper between TP6001 and GND to place the unit in Service Mode.
9. Check and/or repair the unit.
10. Press the STOP/EJECT button to eject the cassette.

    Note:
    When inserting a cassette again, remove the jumper between TP6001 and GND and insert the cassette. Then, reconnect the jumper.

11. After servicing, remove the jumper between TP6001 and GND to release the unit from Service Mode.

Note:
When disassembling/assembling, refer to "Disassembly/ Assembly Procedures of Cabinet" section.

How to Remove a jammed Tape

Manual Method

When a tape jam is encountered, check the tape loading condition and use the following procedure to remove a tape jam.

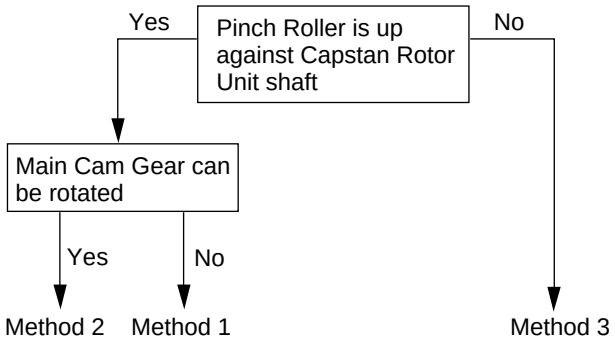


Fig. 4-1

Method -1:

1. While releasing 2 Locking Tabs (A) of Opener Piece, pull the Opener Piece up as far as you can.
2. Move the pin of Pinch Arm Unit out of the groove of the Main Cam Gear so that the Pinch Roller is separated from the shaft of the Capstan Rotor Unit.

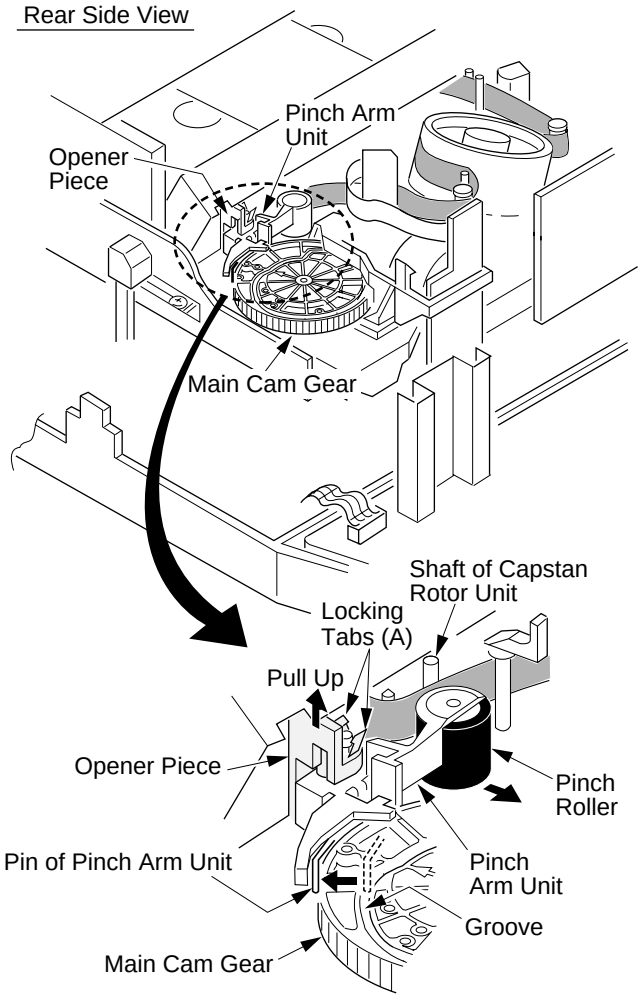


Fig. 4-2

3. Remove the tape from the tape path.
4. Rewind the tape into the cassette by rotating the Center Clutch Unit counterclockwise.
5. Unhook Spring (A) of the Drive Rack Unit.
6. Remove Screw (A).
7. Lift the Drive Rack Unit up so that the slot clears the guide tab. While pulling the Drive Rack Unit out far enough so that it clears the Drive Rack Arm,.slide the Drive Rack Unit as indicated by the arrow to remove the cassette tape from the Cassette Up Ass'y.
9. Check the cause of mechanical trouble and repair.

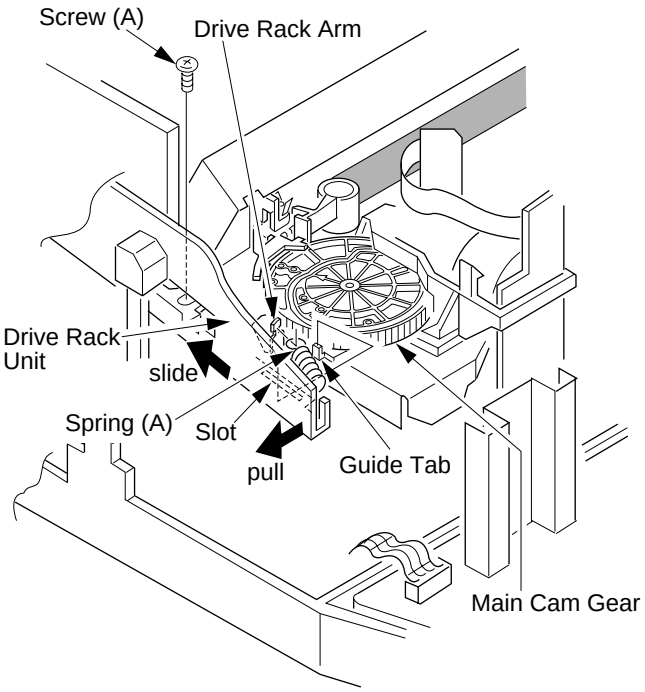


Fig. 4-3

Method -2:

1. Rotate Main Cam Gear clockwise with needlenose pliers, etc. so that the Pinch Roller is separated from the shaft of the Capstan Rotor Unit.
2. Perform Step 3 through Step 8 of Method -1.

Method -3:

1. Perform Step 3 through Step 8 of Method -1.

Note:

After repairing mechanical trouble, make sure that all gear alignments are correct, especially the Wiper Arm Unit and Drive Rack Unit of Cassette Up Ass'y.

Electrical Method

Electrical method can only be performed when the mechanism is moved by rotating the Main Cam Gear.

CAUTION:

If loading dose not start in approx. 2 seconds after DC Power Supply is applied, DO NOT continue to apply DC Power Supply. Instead, perform "Manual Method."

Method -1:

1. Remove the solder as shown and apply +10.0 VDC Power Supply (DC + to Portion "a," DC - to Portion "c").
2. When the Loading Posts reach the fully unloaded position, remove the Power Supply.

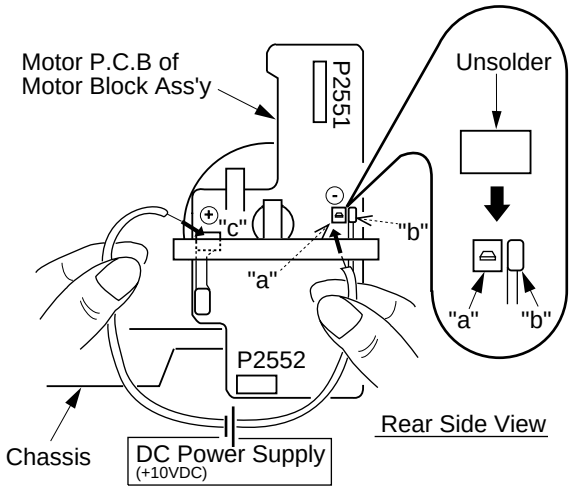


Fig. 5-1

Note:

Be careful not to let the DC Power Supply Unit GND contact the chassis GND. This may damage the Loading Motor Drive IC (IC 2501).
Be sure to apply DC + to Portion "a" of Motor P.C.B.
If DC + is applied to Portion "b", the Loading Motor Drive IC (IC2501) may be damaged.

4. Rewind the tape into the cassette by turning the Center Clutch Unit counterclockwise.
5. Eject the cassette by applying +10.0VDC Power Supply again.
6. After completing the removal procedure, solder Portion "a" and Portion "b."

Method -2:

1. Locate the Jumper (J6004) on the System Control Section of the Main C.B.A. and cut it near the center.

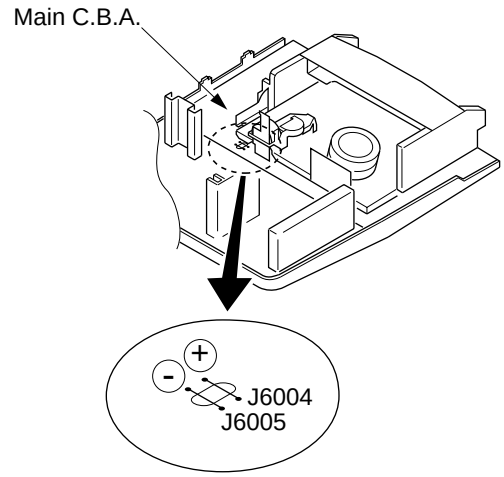


Fig. 5-2

2. Apply +10.0VDC Power Supply to the jumpers. When the Loading Posts reach the fully unloaded position, remove the Power Supply.

Note:

Be careful not to let the DC Power Supply Unit GND contact the chassis GND. This may damage the Loading Motor Drive IC (IC 2501).
Be sure to apply DC + to Portion "a" of J6004.
If DC + is applied to Portion "b" of J6004, the Loading Motor Drive IC (IC2501) may be damaged.

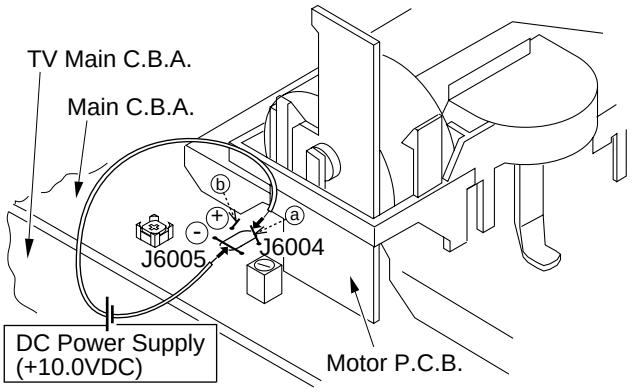
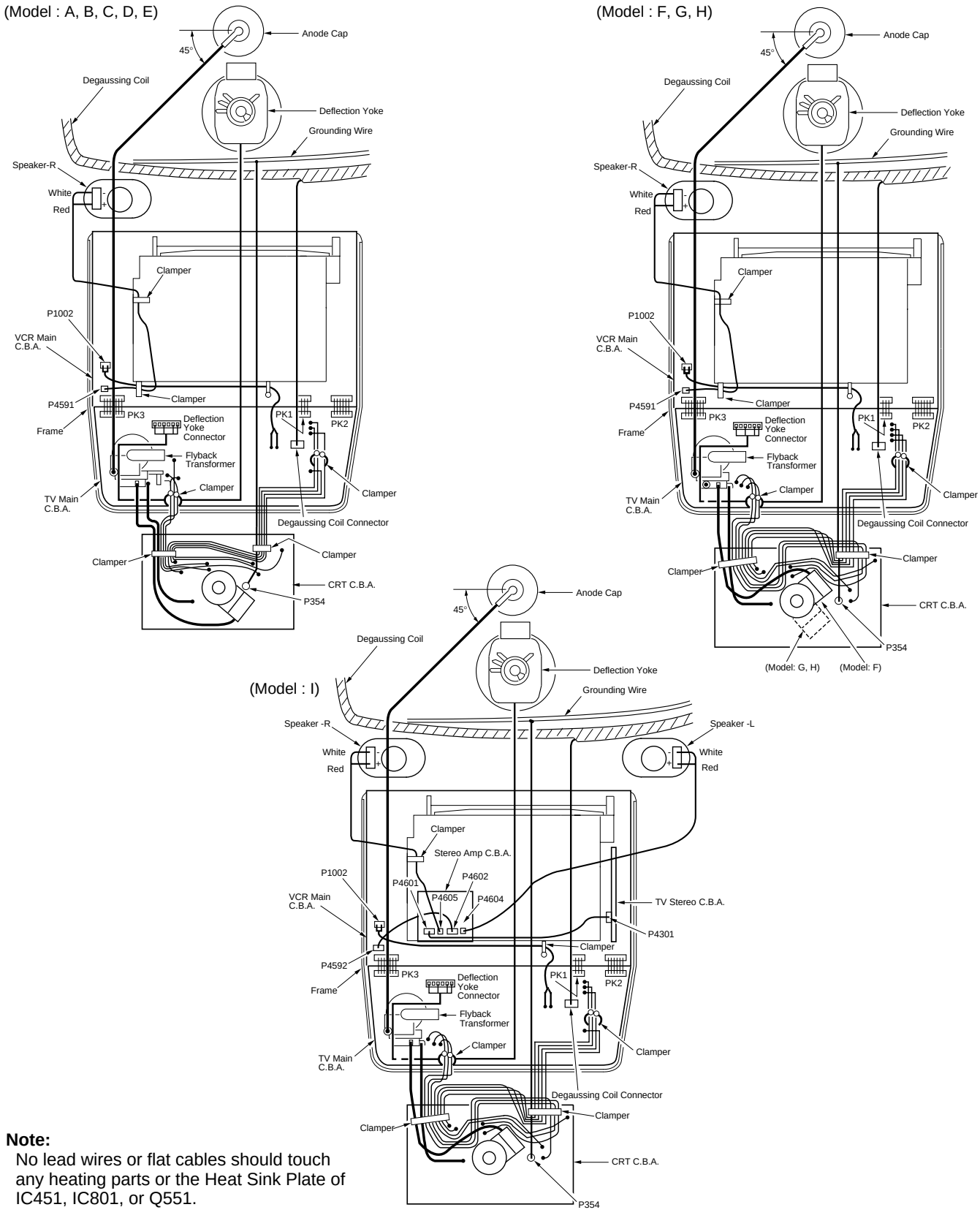


Fig. 5-3

4. Rewind the tape into the cassette by turning the Center Clutch Unit counterclockwise.
5. Eject the cassette by applying +10.0VDC Power Supply again.
6. After completing the removal procedure, resolder Jumper (J6004).

Wire and Lead position Diagram

After servicing, make sure that all wires and leads are placed in their original position. It is important for the best operation of the unit.



Note:

No lead wires or flat cables should touch any heating parts or the Heat Sink Plate of IC451, IC801, or Q551.

Fig. 6

Cylinder Rotation in STOP mode

The cylinder will continue to rotate for approximately 5 minutes after the STOP button is pressed in Play mode etc. Eject the tape in order to stop the cylinder.

Black Screws on the Chassis

Black Screws are used on the Mechanism Chassis to identify screws that require adjustment.

Variable Voltage Isolation Transformer

An Isolation Transformer should always be used during the servicing of Combination VCR whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect Combination VCR from being damaged by accidental shorting that may occur during servicing.
Also, when troubleshooting the above type of Power Supply Circuit, a variable isolation transformer is required in order to increase the input voltage slowly.

Special Note

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

Replacement Procedure for Leadless (Chip) Components

The following procedures are recommended for the replacement of the leadless components used in this unit.

1. Preparation for replacement
   a. Soldering Iron
      Use a pencil-type soldering iron that uses less than 30 watts.
   b. Solder
      Eutectic Solder (Tin 63%, Lead 37%) is recommended.
   c. Soldering time
      Do not apply heat for more than 4 seconds.
   d. Preheating
      Leadless capacitor must be preheated before installation. – (266°F ~ 302°F)
      (130°C ~150°C) for about two minutes.

   Note:
   a. Leadless components must not be reused after removal.
   b. Excessive mechanical stress and rubbing of the component electrode must be avoided.

2. Removing the leadless component
   Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove the leadless component with a twisting motion.

   Note:
   a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twisting action.
   b. Be careful not to break the copper foil on the printed circuit board.

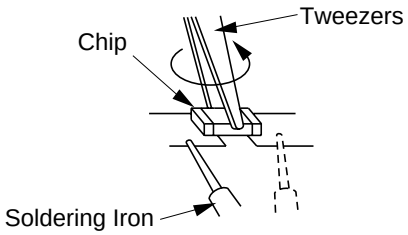


Fig. 7-1

3. Installing the leadless component
   a. Presolder the contact points on the circuit board.

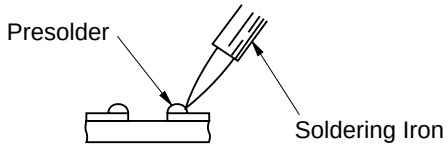


Fig. 7-2

   b. Press the part downward with tweezers and solder both electrodes as shown below.

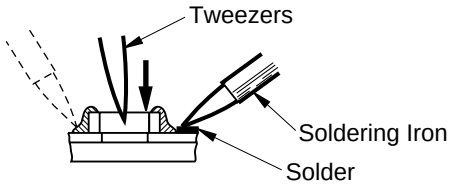


Fig. 7-3

Note:
Do not glue the replacement leadless component to the circuit board.

Hot Circuit

Primary circuit exists on the Main C.B.A. and TV Main C.B.A. This circuit is identified as "**HOT**" on the C.B.A. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

Service Mode

In order to inhibit detection of the Supply & Takeup Photo Transistors, Reel Sensor, and Cylinder Lock, place a jumper between TP6001 and GND.

In this mode, Mechanism movement can be confirmed. When removing Cassette Up Ass'y or loading mecanism manually, it can be confirmed without a cassette.

To release from this mode, remove the jumper between TP6001 and GND.

Defeating the Auto Tracking

To defeat the Auto Tracking Function, place the instrument in the STOP mode and place a jumper between TP6003 and TP6009 on the Main C.B.A. The tracking will be placed in the neutral position.

How to set Tracking to the Neutral Position

Ejecting the cassette tape and then, reinserting it will reset the tracking to the Neutral position.

How to reset all Combination VCR Memory functions

To reset (clear) the select language, channel auto set and set clock functions to their initial power on condition (power on, **no** cassette inserted), hold down the PLAY and REWIND buttons on the unit together for more than 5 seconds.
Power will shut off.

Method for Manual Loading / Unloading of Mechanism

Turn the Main Cam Gear counterclockwise (for loading) or clockwise (for unloading) using needlenose pliers etc.

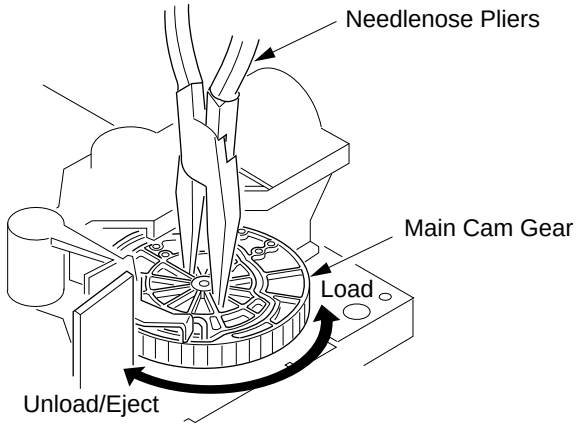


Fig. 8-1

When loading without a cassette, press Portion "a" on both sides of the Holder Unit of Cassette Up Ass'y so that the Lever clears Tab and Hole.

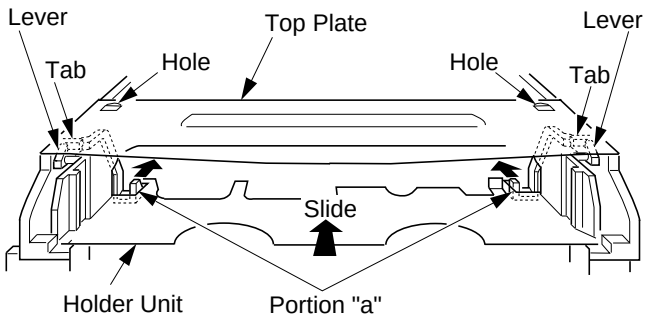


Fig. 8-2

Model No. Identification Mark

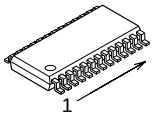
Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-M2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

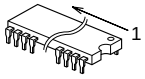
Note:
Refer to Item 5 of Schematic Diagrams and Circuit Board Layout Notes, for mark "Z."

IC, TRANSISTOR AND CHIP PART INFORMATION

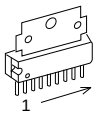
GENERAL C.B.A./ASS'Y PARTS



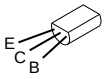
UPC4570C,
MN3885S,
AN3361SB,
AN3371SB



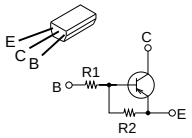
LC8643125957,
TC4053BP,
24LC01B/PS1



AN5265,
AN3809K

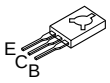


2SC945A, 2SA733,
2SC1473



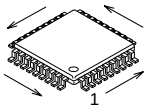
DTA143ES
(R1=47K, R2=OPEN),
DTA144ES
(R1=47K, R2=47K)

CRT C.B.A.

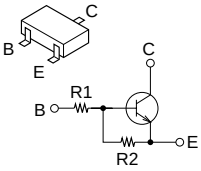


2SC3063

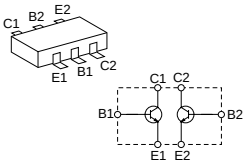
VCR MAIN C.B.A.



AN5367FB,
AN3475FBP,
MN675058A5P2

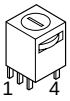


UN2213(R1=47K, R2=47K),
UN2212(R1=22K, R2=22K),
UN2215
(R1=10K, R2=OPEN)

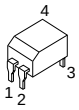


IMX1

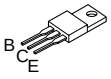
2SD601, 2SD601A,
2SB709



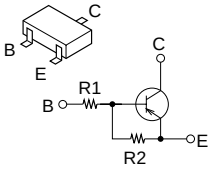
T4101,
VLTS0304



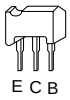
ON3131-R.KT



2SD2375, 2SC3852,
2SC4533LP.KT,
2SC5130LF608

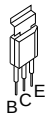


UN2112(R1=22K, R2=22K),
UN2115
(R1=10K, R2=OPEN)

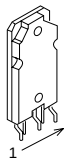


2SD1458, 2SD636,
2SB641, 2SD2259

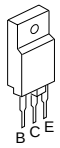
TV MAIN C.B.A.



2SC2653H



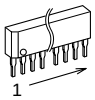
STR30130



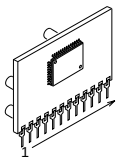
2SD1555LBMTV,
2SD2499LBMA

LA7837

TV STEREO C.B.A.



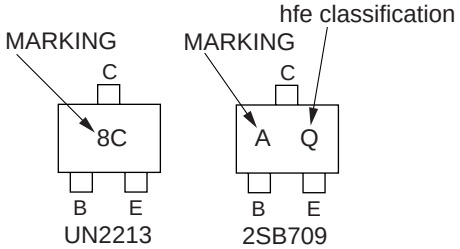
AN7420



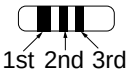
VCRS0214

HOW TO READ THE IDENTIFICATION MARK OF CHIP COMPONENTS.

MARKING	PART NO.	MARKING	PART NO.
A	2SB709	6B	UN2112
N9	MA372J	8C	UN2213
X1	IMX1		



HOW TO READ THE VALUES OF THE CYLINDRICAL TYPE CHIP COMPONENTS.



The widest color band must be read first for value.

(a) RESISTOR

There are two types (ERD10LLJ... and ERD10TLJ...) of chip parts.

1) ERD10LLJ : Refer to above type.
2) ERD10TLJ : The narrow color band must be read first for value.

If this part is included in the parts list, be sure that the color band is read properly when servicing.

(b) CAPACITOR

Because of the width of the color bands, the reading direction cannot be specified. However, the color band can be read on either side. Be sure to confirm the value using the schematic diagram.

CAUTION :

Once chip parts are removed, they must not be reused. Always use a new part when installing a chip part.

DISASSEMBLY/ASSEMBLY PROCEDURES

DISASSEMBLY/ASSEMBLY PROCEDURES OF CABINET

Disassembly Flowchart

Perform all disassembly procedures in the order described in the "Disassembly Flowchart" shown below. When reassembling, use the reverse procedure.

CAUTION:
Disconnect AC plug before disassembly.

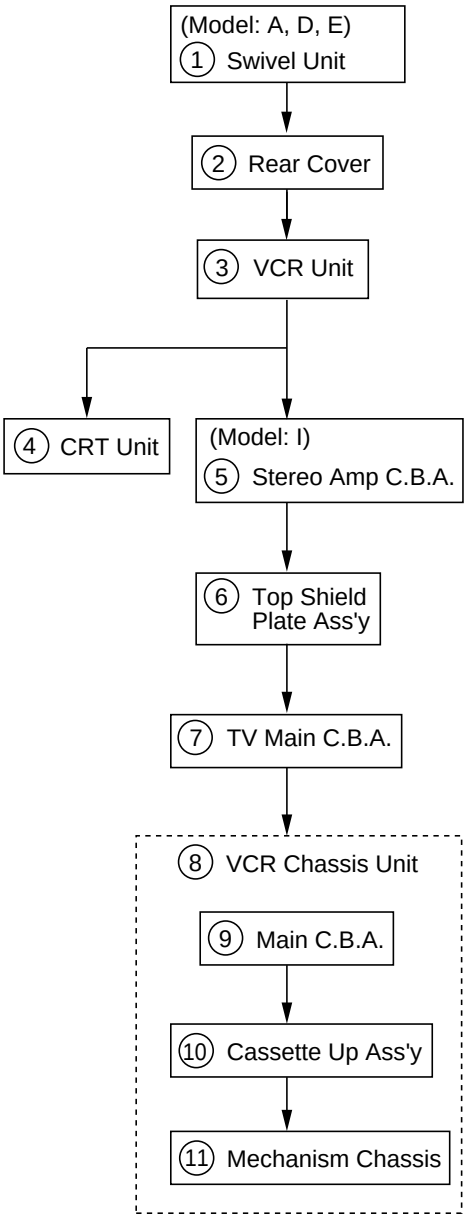


Fig. D1

Swivel Unit (Model: A, D, E)

Disassembly Procedure

1. While pushing one of the Locking Tabs (A) outward, pull that portion of the Swivel Unit free from the unit.
2. Repeat step 1 for other Locking Tabs (A) to remove the Swivel Unit.

Bottom View

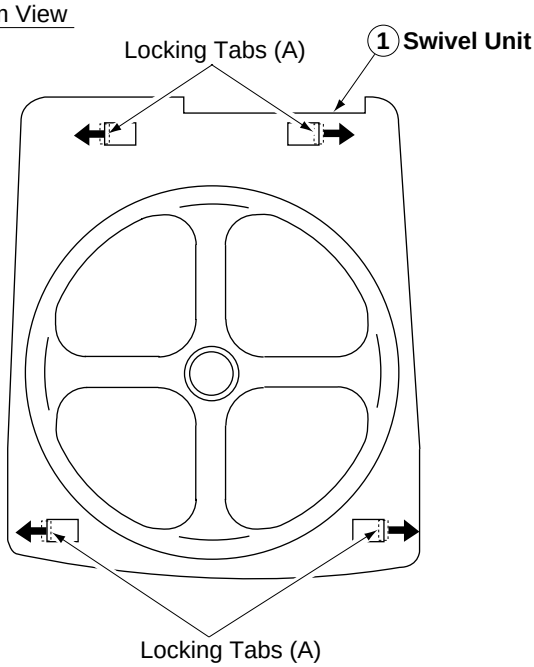


Fig. D2

Rear Cover

Disassembly Procedure

Remove 7 Screws (A). Then, pull the Rear Cover away.

(Model: A, B, C, D, E)

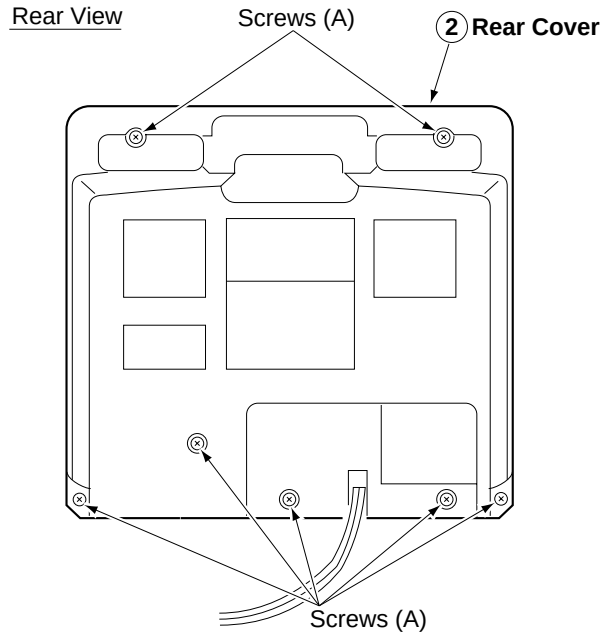


Fig. D3-1

(Model: F, G, H, I)

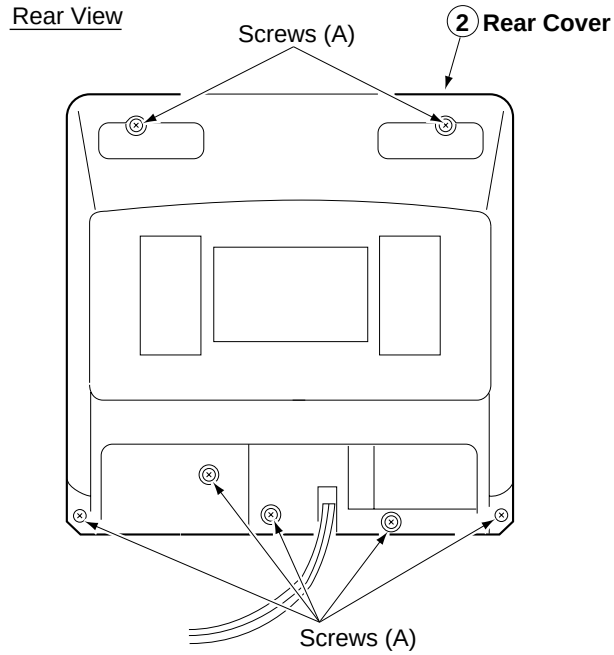


Fig. D3-2

VCR Unit

Disassembly Procedure

1. Discharge the Anode to the CRT Ground. Then, remove the Anode Cap.
2. Disconnect the Connector P354 from the CRT C.B.A.
3. Carefully pull out the CRT C.B.A. from the CRT Unit.
4. Disconnect the Deflection Yoke Connector and the Degaussing Coil Connector from the Main C.B.A.
5. (Model : A, B, C, D, E, F, G, H)
   Disconnect the Connector P4591 on the Main C.B.A. and remove the leads from the clampers.

   (Model : I)
   Disconnect 2 Connectors P4604 and P4605 on the Stereo Amp C.B.A. and remove the leads from the clampers.

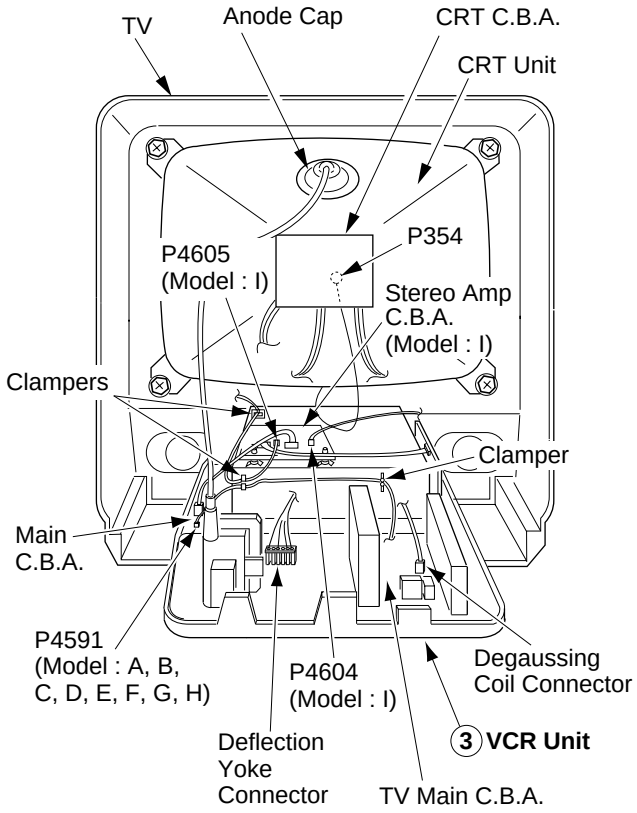


Fig. D4-1

6. (Model: A, B, C, D, E)
   Slightly lift up the rear side of the VCR Unit to release Tabs (B).
   (Model: F, G, H, I)
   Slightly lift up the rear side of the VCR Unit to release Tabs (B) and (C).
7. Slide the VCR Unit out as far as it will go.
   Then, lift up the VCR Unit to release 3 Guide Tabs (A) and remove the VCR Unit all the way out from the TV cavity.

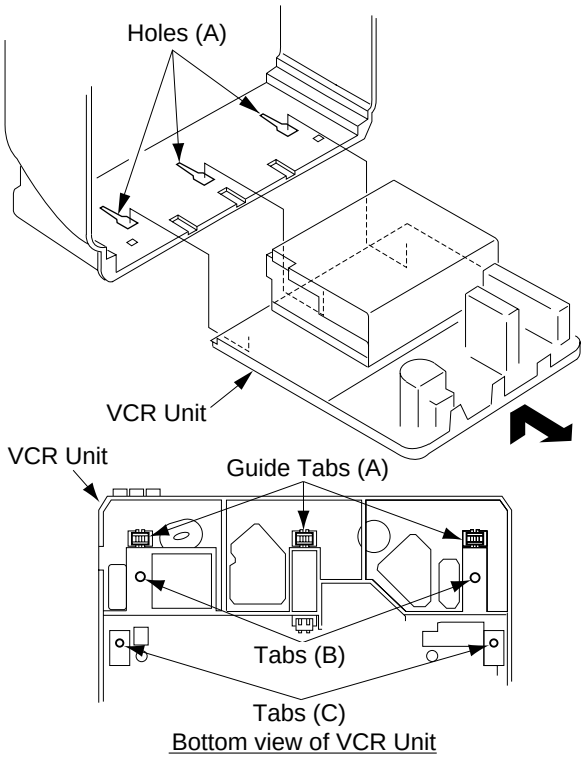


Fig. D4-2

Reassembly Notes

1. Installation of VCR Unit

1) When installing the VCR Unit, swing the Cassette Door-Lid all the way open until the Cassette Door tab clears the Opener Lever.
2) Make sure that all guide tabs are aligned properly. Then, press the VCR unit in.

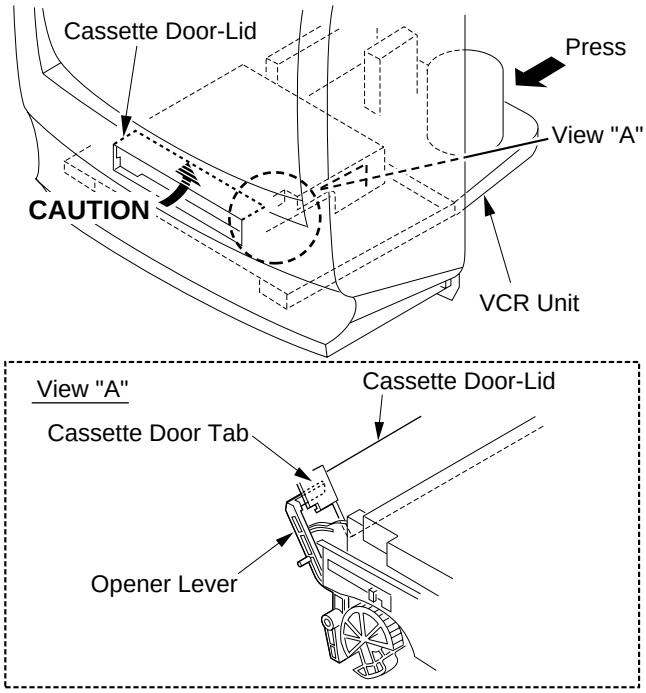


Fig. D4-3

CRT Unit

Disassembly Procedure

Remove 4 Screws with Washers (A). Then, pull out the CRT Unit.

Note:
Place the Unit face down on a soft cloth before removing the CRT Unit.

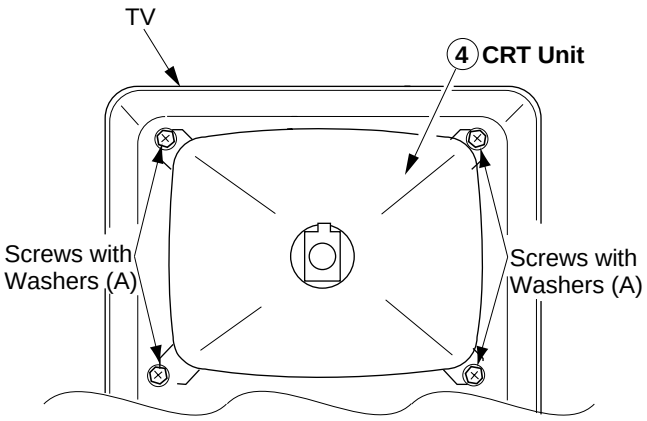


Fig. D5

Stereo Amp C.B.A. (Model: I)

Disassembly Procedure

1. Disconnect 2 Connectors P4592 on the Main C.B.A. and P4301 on the TV Stereo C.B.A.
2. Release 3 Clampers (A) on the TV Stereo C.B.A. Then, remove the Stereo Amp C.B.A.

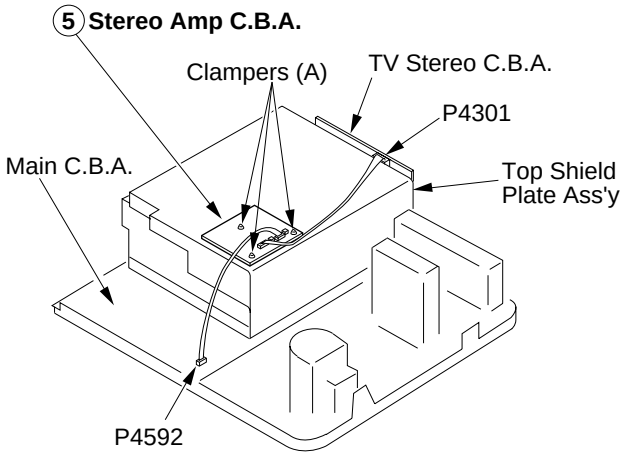


Fig. D6

Top Shield Plate Ass'y

Disassembly Procedure

1. Release the 2 Clampers (B) on the Top Shield Plate Ass'y and remove the leads from the clampers.
2. Remove 3 Screws (B). Then, remove the Top Shield Plate Ass'y.

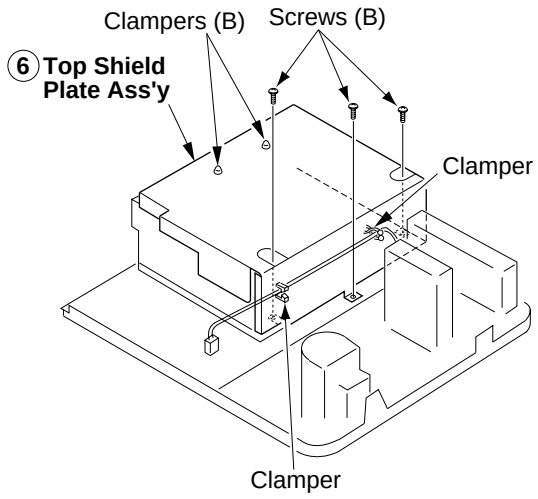


Fig. D7-1

Reassembly Notes

1. When installing the Top Shield Plate Ass'y, make sure the 2 Clampers (B) on the Cassette Up Ass'y are turned in the direction shown.
   If not, the Top Shield Plate Ass'y cannot be installed.

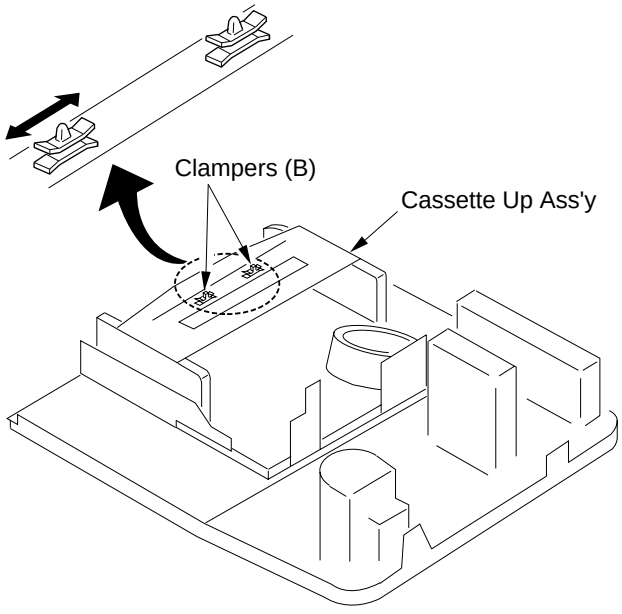


Fig. D7-2

TV Main C.B.A.

Disassembly Procedure

1. Disconnect Connector P1002 on the Main C.B.A.
2. Disconnect 3 Connectors PK1, PK2, and PK3 on the TV Main C.B.A.

   Note :
   When disconnecting or connecting 3 Connectors PK1, PK2, and PK3, take extreme care not to break them.

3. Remove the TV Main C.B.A. by releasing 2 Locking Tabs (B) and A/C Cord from the frame.

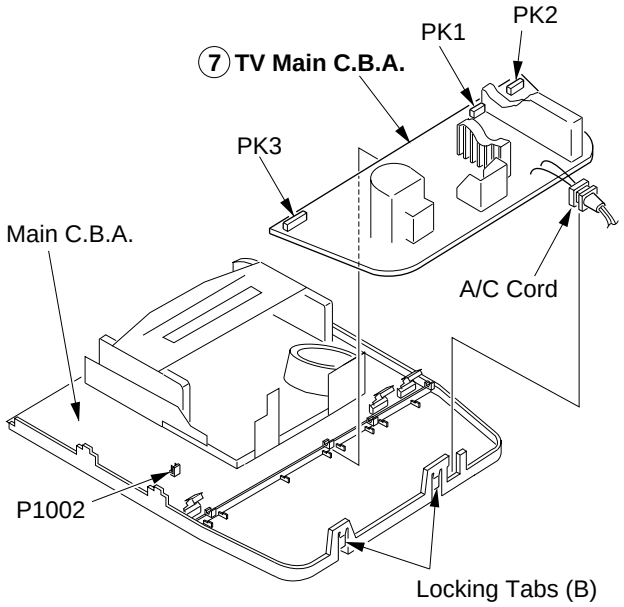


Fig. D8

VCR Chassis Unit

Disassembly Procedure

1. Slide the Holder Unit (refer to "Method for Manual Loading/ Unloading of Mechanism" in Service Notes) to remove 2 Screws (C).
2. (Model: A, B, C, D, E)
   Remove 3 Screws (D) and Screw (E).
   (Model: F, G, H, I)
   Remove 2 Screws (D) and Screw (E).
3. Remove 2 Screws with Washers (B).

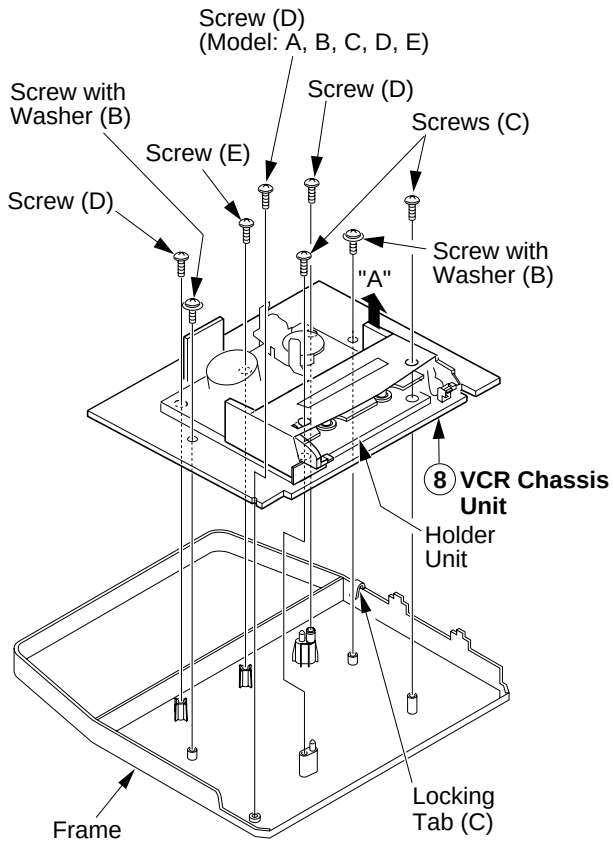


Fig. D9

4. While pushing Locking Tab (C) outward, lift the right side of the Cassette Up Ass'y (Portion "A"). Then, lift the VCR Chassis Unit out of the Frame.

Note:
Work carefully so as not to break tab.

Main C.B.A.

Disassembly Procedure

1. Disconnect 4 Connectors of P2531, P2552, P3501 and P4001.
2. Carefully lift the Mechanism Chassis Unit straight out from the Main C.B.A.

Note:
Work carefully so as not to break Sensor LED, when lifting the Mechanism Chassis Unit.

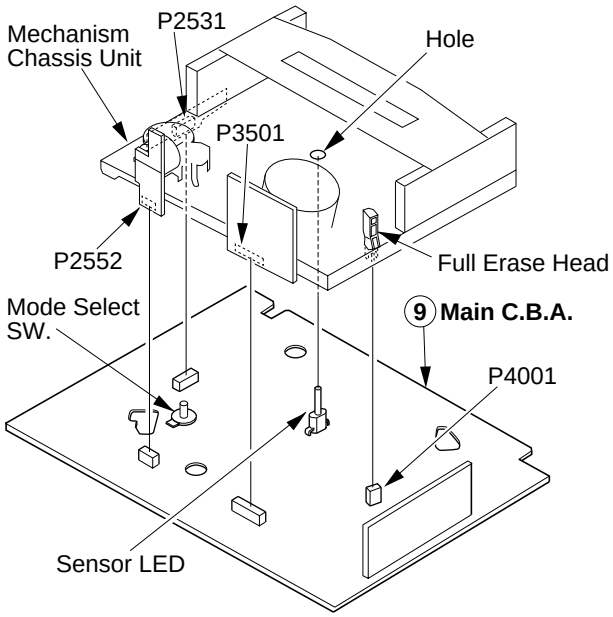


Fig. D10-1

Reassembly Notes

1. Make sure that the Mode Select SW. on the Main C.B.A. is in EJECT position before installing the Mechanism Chassis Unit onto the Main C.B.A. If not, rotate the Mode Select SW. until the alignment projection is in the EJECT Position.

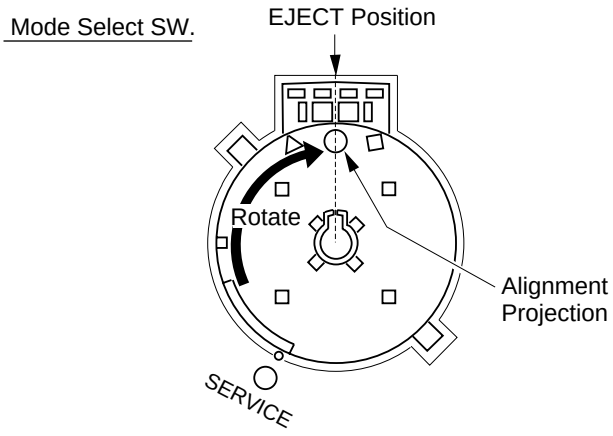


Fig. D10-2

2. Be sure to install the Mechanism Chassis Unit straight onto the Main C.B.A. so that the Sensor LED clears the hole in the Mechanism Chassis Unit.
3. Be sure that 4 Connectors (P2531, P2552, P3501, and P4001) are aligned and seated securely.

Cassette Up Ass'y

Disassembly Procedure

1. Slide the Holder Unit (refer to "Method for Manual Loading/ Unloading of Mechanism" in Service Notes) to remove 2 Screws (F).
2. Remove Screw (G).
3. Unhook Spring (A).
4. Slide the Cassette Up Ass'y towards the front to release Tab (C). Then, lift it up and remove.

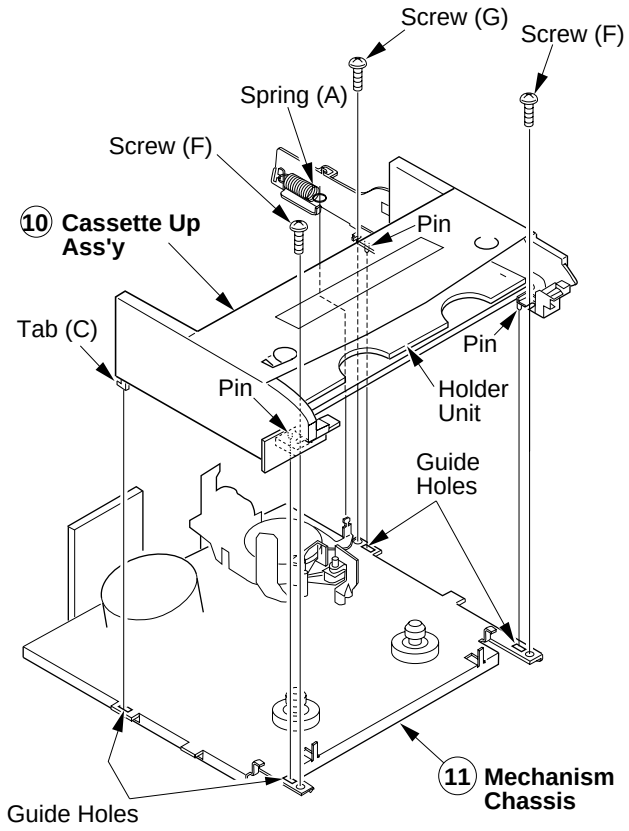


Fig. D11

Reassembly Notes

1. Installation of Cassette Up Ass'y

1) Confirm that the 3 pins and Tab (C) under the Cassette Up Ass'y are in each of the 4 Guide Holes on the Mechanism Chassis when installing the Cassette Up Ass'y. Then, slide the Cassette Up Ass'y towards the back.
2) Tighten 2 Screws (F) and Screw (G).
Be careful not to tighten them too much, or the Cassette Up Ass'y may be bent outward.

DISASSEMBLY/ASSEMBLY PROCEDURES OF MECHANISM

Disassembly Method

This chart indicates Step/Location No. of Parts to be serviced and prior steps to gain access items to be serviced when disassembling. When reassembling, perform the step(s) in the reverse order.

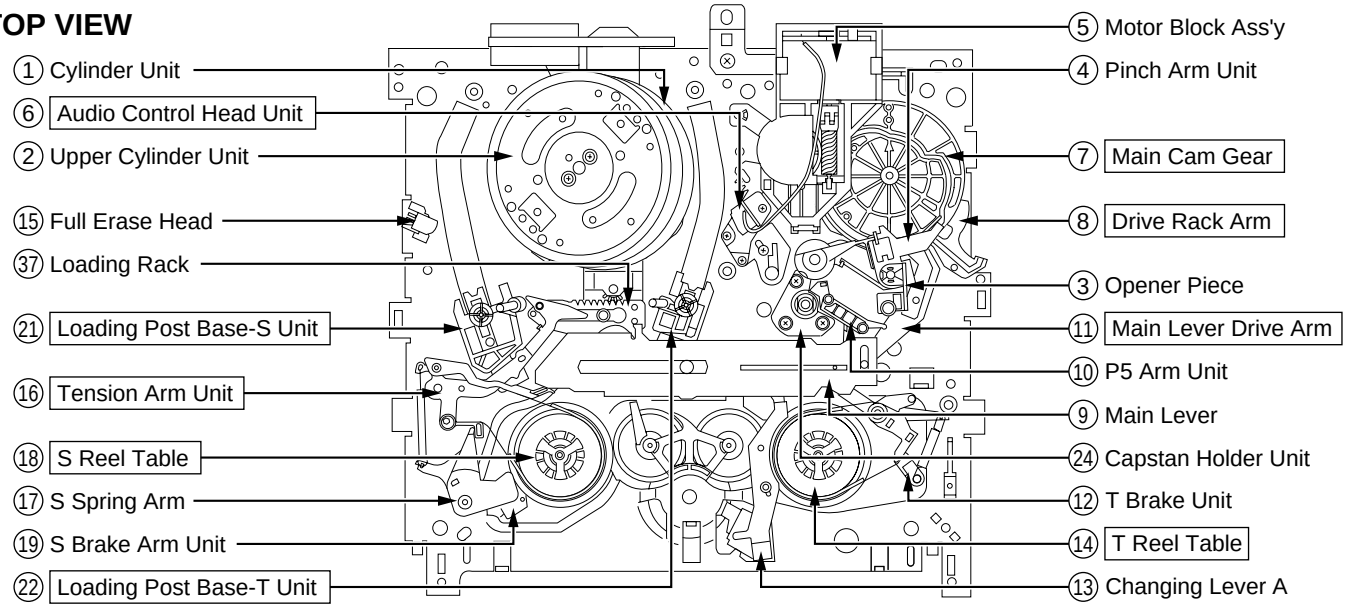
Step /Loc. No.	Part	Prior Step(s)	Step /Loc. No.	Part	Prior Step(s)	Step /Loc. No.	Part	Prior Step(s)	Step /Loc. No.	Part	Prior Step(s)
①	Cylinder Unit	----------	⑪	Main Lever Drive Arm	3, 4, 5, 7, 8, 9	㉑	Loading Post Base-S Unit	16	㉛	S Loading Arm Unit	30
②	Upper Cylinder Unit	----------	⑫	T Brake Unit	9	㉒	Loading Post Base-T Unit	9, 20	㉜	Center Clutch Unit	----------
③	Opener Piece	----------	⑬	Changing Lever A	9	㉓	Capstan Rotor Unit	----------	㉝	Changing Gear Spring	32
④	Pinch Arm Unit	3	⑭	T Reel Table	9, 12, 13	㉔	Capstan Holder Unit	23	㉞	Changing Gear	32, 33
⑤	Motor Block Ass'y	----------	⑮	Full Erase Head	----------	㉕	SS Brake Arm Unit	----------	㉟	Changing Lever-B	32, 33, 34
⑥	Audio Control Head Unit	5	⑯	Tension Arm Unit	----------	㉖	Junction C.B.A.	----------	㊱	Idler Arm Unit	32, 33, 34
⑦	Main Cam Gear	3, 4, 5	⑰	S Spring Arm	----------	㉗	Capstan Stator Unit	23, 25, 26	㊲	Loading Rack	9, 30
⑧	Drive Rack Arm	3, 4, 5, 7	⑱	S Reel Table	16, 17	㉘	Sub Rotor	23, 25, 26, 27	㊳	Grounding Plate Unit	----------
⑨	Main Lever	----------	⑲	S Brake Arm Unit	9, 16, 17, 18	㉙	PCB Holder	23, 25, 26, 27	㊴	FG Head	----------
⑩	P5 Arm Unit	9	⑳	Main Lever Guide	9	㉚	T Loading Arm Unit	----------			

Step/Loc. No.: Order of steps in procedure. Part : Part to be removed or installed. Prior Step(s) : Steps to be completed prior to the current step.

Note: When the mechanical parts surrounded by rectangle are removed or replaced, be sure to perform necessary adjustment or alignment procedures according to the mechanical adjustment procedures section and disassembly/assembly procedures of mechanism section.

Perform all disassembly and alignments procedures in EJECT Position.

TOP VIEW


① Cylinder Unit
⑥ Audio Control Head Unit
② Upper Cylinder Unit
⑮ Full Erase Head
㊲ Loading Rack
㉑ Loading Post Base-S Unit
⑯ Tension Arm Unit
⑱ S Reel Table
⑰ S Spring Arm
⑲ S Brake Arm Unit
㉒ Loading Post Base-T Unit
⑤ Motor Block Ass'y
④ Pinch Arm Unit
⑦ Main Cam Gear
⑧ Drive Rack Arm
③ Opener Piece
⑪ Main Lever Drive Arm
⑩ P5 Arm Unit
⑨ Main Lever
㉔ Capstan Holder Unit
⑫ T Brake Unit
⑭ T Reel Table
⑬ Changing Lever A

BOTTOM VIEW

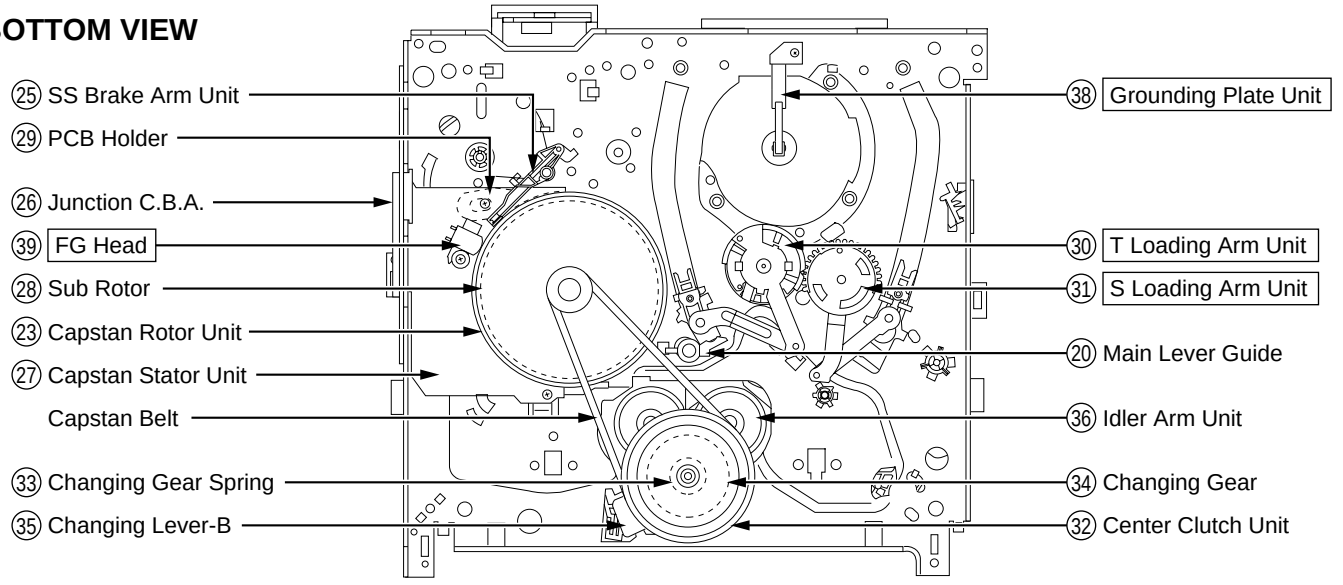


Fig. J1

Cylinder Unit

Disassembly Procedure

1. Remove 3 Screws (A) and 2 Screws with Washers (A). Then, lift the Cylinder Unit and the Head Amp C.B.A. out from the mechanism.
2. Unsolder P3502 and P3503. Then, remove the Head Amp C.B.A.

Note:

Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing.

CAUTION:

When removing the Cylinder Unit, avoid touching IC2601 on the Head Amp C.B.A. because it is **HOT** during operation.

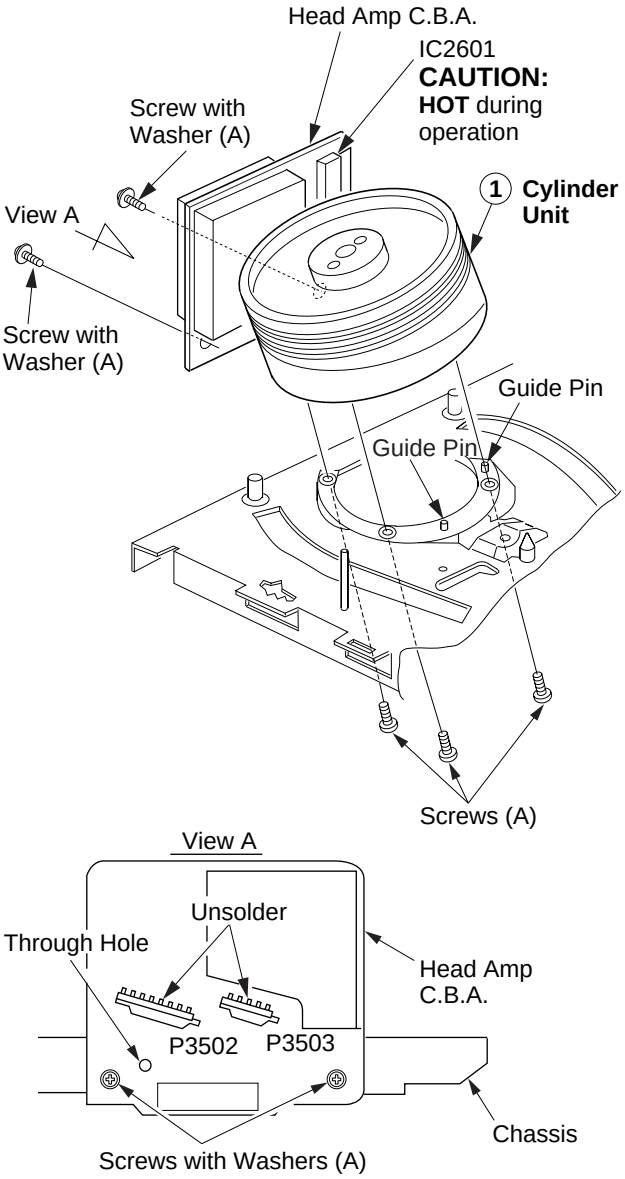


Fig. J2-1

Reassembly Notes

1. Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Installation of Cylinder Unit**
   1) Install the Cylinder Unit so that the 2 holes on the lower surface of the Cylinder Unit fit over the 2 Guide Pins on the Cylinder Base and loosely secure it with 3 Screws (A).
   2) Install the Head Amp C.B.A. so that the hole on the Head Amp C.B.A. lines up with the hole on the chassis and secure it with 2 Screws with Washers (A).
   3) Position the Cylinder Unit so that foil patterns of connectors (P3502 and P3503) and Head Amp C.B.A. are aligned, and tighten 3 Screws (A).
   4) Solder connectors (P3502 and P3503).
3. **Adjustment of Grounding Plate Unit**
   1) After installing, make sure that the Grounding Plate Unit, on the bottom side of mechanism chassis, is positioned on the right side of the Cylinder shaft so that the center line of the plate is just less than 1.0 mm measured from the center of the Cylinder shaft.
      If required, adjust the plate position by loosening Black Screw (A).
      Never install the Grounding Plate Unit on the left side of the Cylinder shaft.
      Incorrect positioning will cause cylinder buzz.

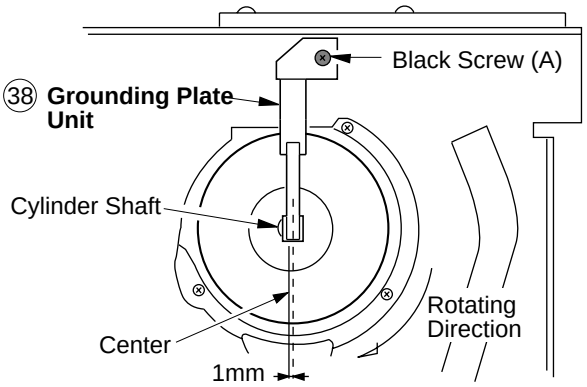


Fig. J2-2

   2) After installing, perform the "Tape Interchangeability Adjustment/Confirmation Procedures."

Upper Cylinder Unit

Disassembly Procedure

1. Remove 2 Screws with Washers (B).
2. Carefully lift the Upper Cylinder Unit from the shaft.

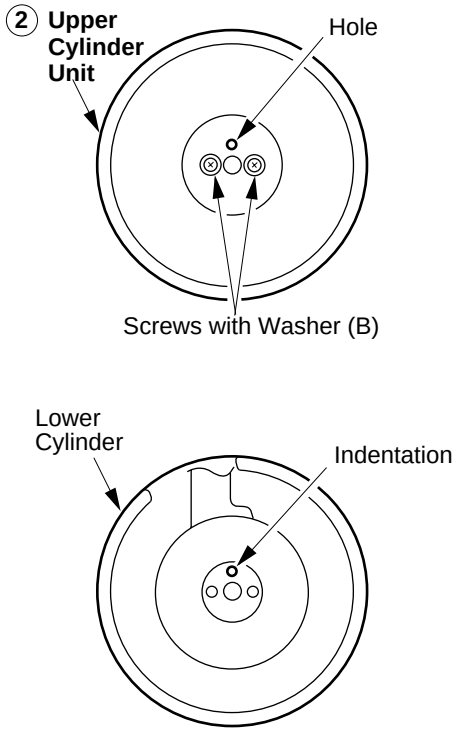


Fig. J3

Note:

Use extreme care when removing or replacing the Upper Cylinder Unit. Do not touch the Video Heads during servicing.

Reassembly Notes

1. Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Alignment of Upper Cylinder Unit**
   1) When installing, make sure that the hole on the Upper Cylinder is aligned with the indentation on the Lower Cylinder.
   2) After installing, perform the "Tape Interchangeability Adjustment/Confirmation Procedures."

Opener Piece, Pinch Arm Unit, Motor Block Ass'y, and Audio Control Head Unit

Disassembly Procedure

1. Remove the Opener Piece by pulling it upward while releasing 2 Locking Tabs (A).
2. Pull up on the Pinch Arm Unit.
3. Release 3 Locking Tabs (B) and remove Screw with Washer (C). Then, remove the Motor Block Ass'y and Audio Control Head Unit.

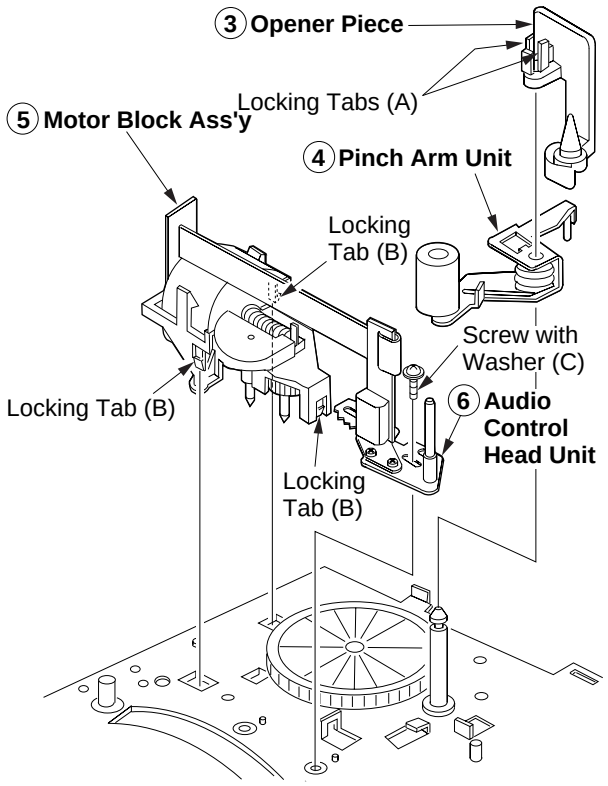


Fig. J4

Reassembly Notes

1. **Installation of Audio Control Head Unit**
   1) Install the Audio Control Head Unit before Motor Block Ass'y.
   2) After installing, perform the "Tape Interchangeability Adjustment/Confirmation Procedures."

Main Cam Gear and Drive Rack Arm

Disassembly Procedure

1. Remove the Main Cam Push Nut. (Refer to Note.)
2. Pull up on the Main Cam Gear.
3. Turn the Drive Rack Arm fully counterclockwise as shown.
4. Pull up on the Drive Rack Arm.

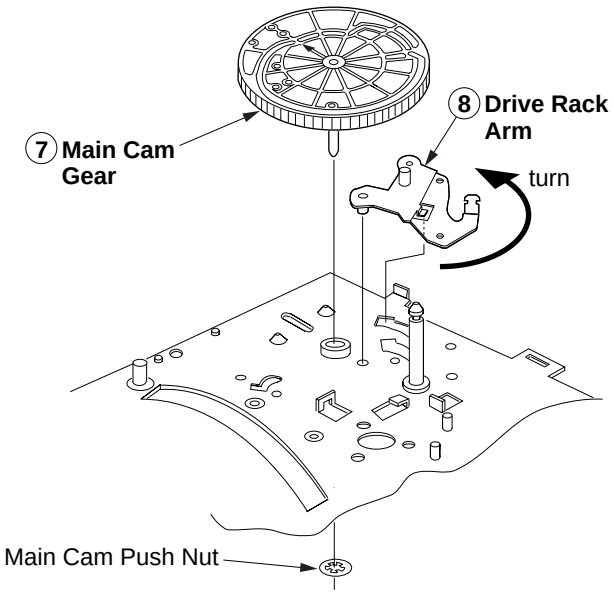


Fig. J5-1

Note:
When removing the Main Cam Push Nut, use a screwdriver etc.

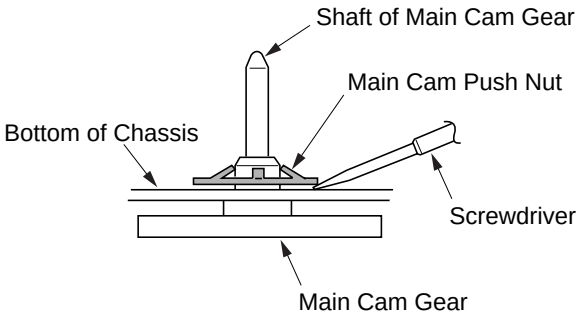


Fig. J5-2

Reassembly Notes

1. **Alignment of Main Cam Gear and Drive Rack Arm**
   1) Install the Drive Rack Arm so that the hole (A) is aligned with the hole on chassis as shown (Through hole (A)).
   2) Install the Main Cam Gear so that the 2 holes (B) marked "E" are aligned with the hole on chassis as shown (Through hole (B)). ("E" indicates the EJECT position.)

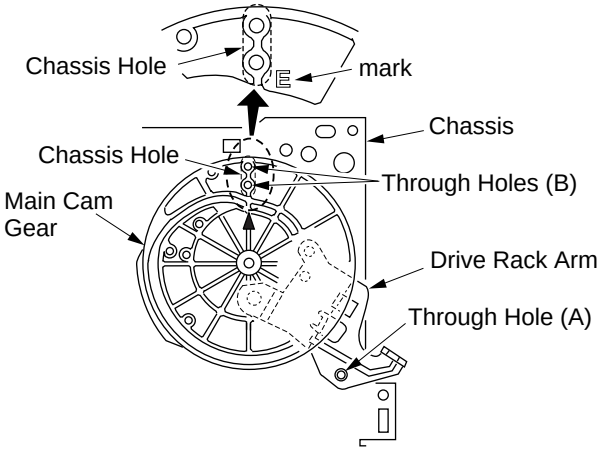


Fig. J5-3

2. **Installation of Main Cam Gear and Main Cam Push Nut**
   1) Position the chassis upside down placing a Support under the Main Cam Gear.
   Install the Main Cam Push Nut with Needlenose Pliers etc. so that it is flush with the chassis.

   There may be some slight scratches on the Shaft of Main Cam Gear, when removing the Main Cam Gear. In case that the Main Cam Gear can be installed securely without tottering, it is fine to use the one. If any tottering, replace a new one.

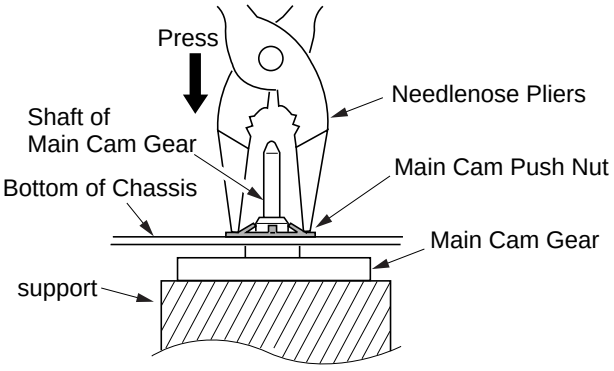


Fig. J5-4

3. Main Cam Push Nut is not reusable. If removed, install a new one.

Main Lever

Disassembly Procedure

1. Release 2 Locking Tabs (C) and Locking Tab (D). Then, remove the Main Lever.

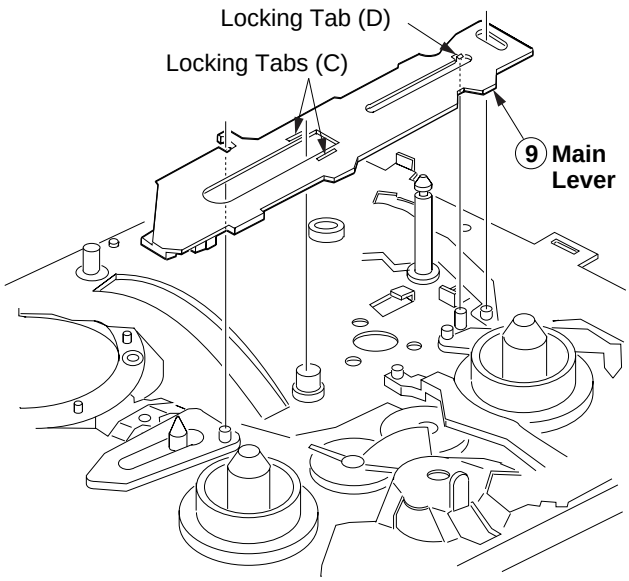


Fig. J6-1

Reassembly Notes

1. **Confirmation of Main Lever**
   1) Confirm that bosses and shafts are set properly after installation of Main Lever.

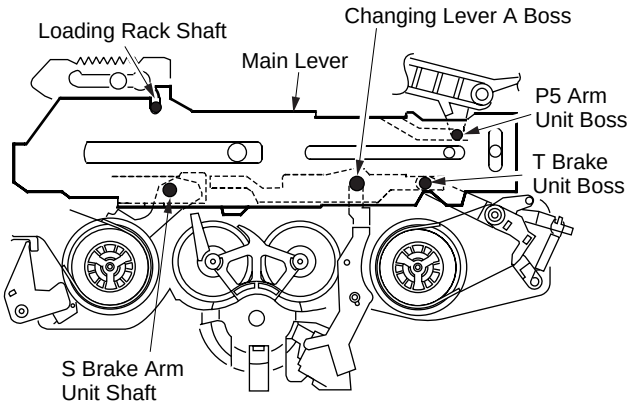


Fig. J6-2

P5 Arm Unit and Main Lever Drive Arm

Disassembly Procedure

1. Pull up on the P5 Arm Unit.
2. Turn the Main Lever Drive Arm fully counterclockwise as shown.
3. Pull up on the Main Lever Drive Arm.

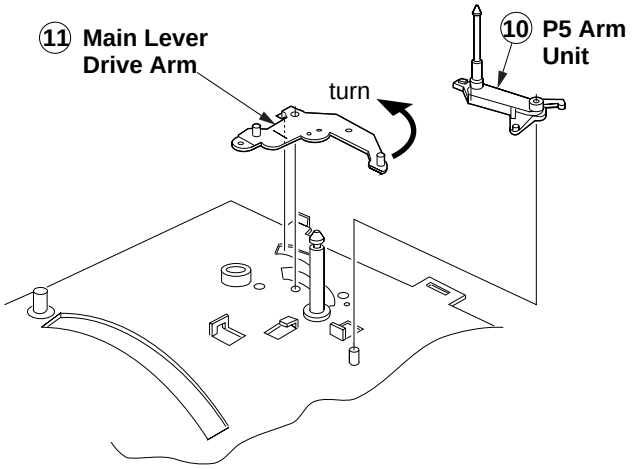


Fig. J7-1

Reassembly Notes

1. **Alignment of Main Lever Drive Arm**
   1) Install the Main Lever Drive Arm so that the hole (C) is aligned with the hole on the Chassis as shown (Through hole (C)).

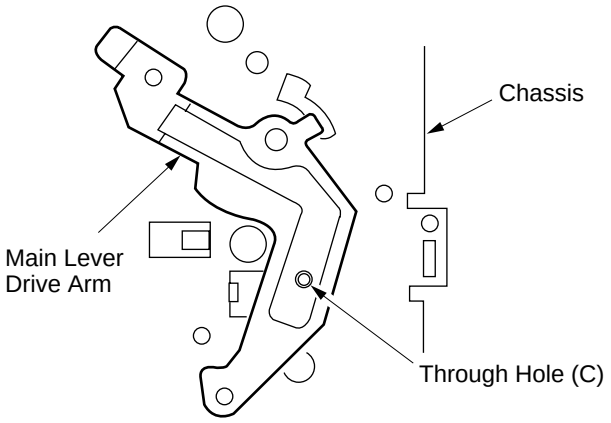


Fig. J7-2

T Brake Unit, Changing Lever A, and T Reel Table

Disassembly Procedure

1. Remove the T Brake Unit while releasing Locking Tab (E) located under the chassis.
2. Remove Cut Washer (A). Then, pull up on the Changing Lever A and remove.
3. Pull up on the T Reel Table.

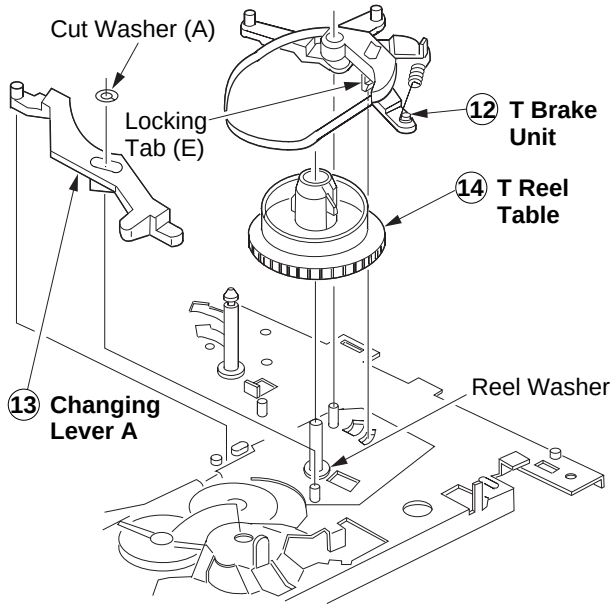


Fig. J8-1

Reassembly Notes

1. **How to distinguish between S Reel Table and T Reel Table**

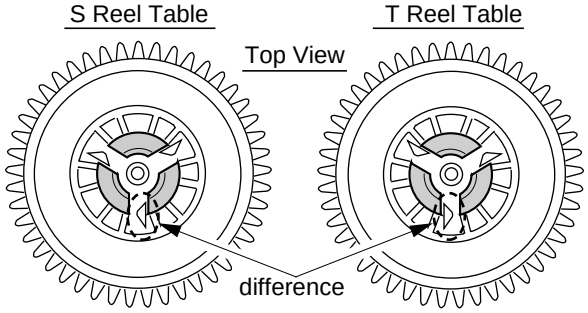


Fig. J8-2

2. **Adjustment of T Reel Table**
   1) After installing, perform the "Reel Table Height Adjustment Procedures."
3. Be careful not to lose the Reel Washer under the T Reel Table.
4. Cut Washer (A) is not reusable. If removed, install a new one.

Full Erase Head, Tension Arm Unit, S Spring Arm, and S Reel Table

Disassembly Procedure

1. Turn the Full Erase Head fully counterclockwise as shown. Then remove it.
2. Unhook Spring (A).
3. Remove the Tension Arm Unit by pulling it up while releasing 2 Locking Tabs (F).
4. Remove the S Spring Arm while releasing Locking Tab (G).
5. Pull up on the S Reel Table.

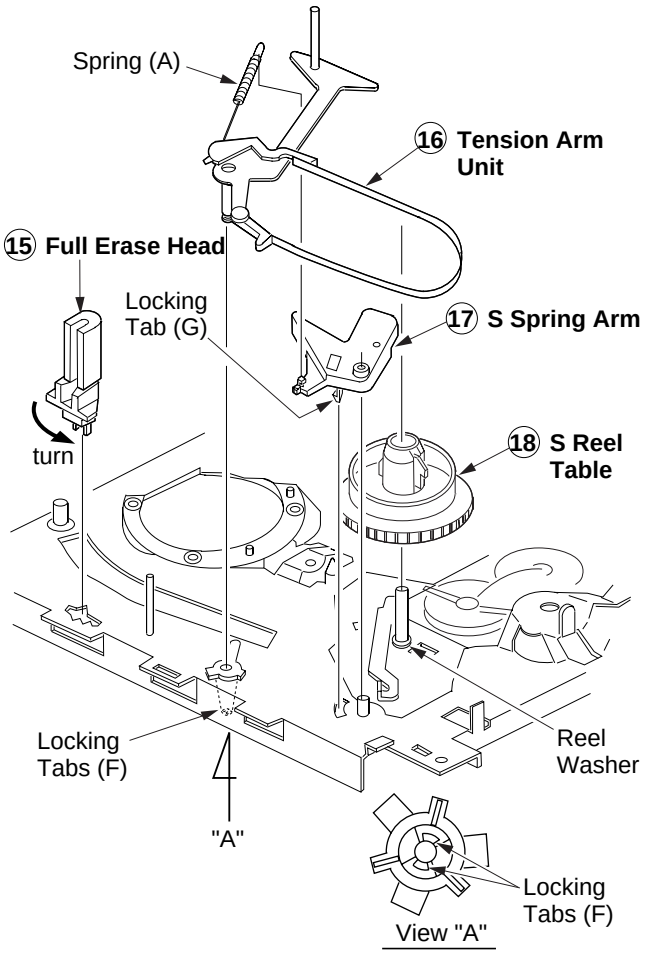


Fig. J9

Reassembly Notes

1. **Adjustment of S Reel Table**
   1) After installing, perform the "Reel Table Height Adjustment Procedures".
2. Be careful not to lose the Reel Washer under the S Reel Table.
3. **Adjustment of Tension Arm Unit**
   1) After installing, perform the "Tension Post Adjustment Procedures."

S Brake Arm Unit, Main Lever Guide, Loading Post Base -S, and Loading Post Base -T Unit

Disassembly Procedure

1. Remove the S Brake Arm Unit while releasing 2 Locking Tabs (H).
2. Remove the Main Lever Guide while releasing Locking Tab (I).
3. Slide the Loading Post Base -S and T Units to the end of the guide slots to remove.

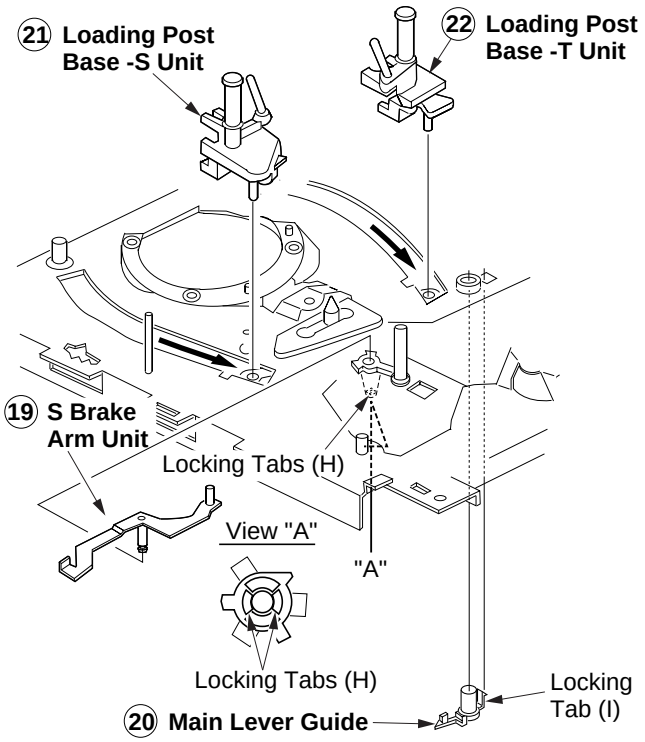


Fig. J10

Reassembly Notes

1. **Adjustment of Loading Post Base -S Unit and Loading Post Base -T Unit**
   1) After installing, perform the "P2 and P3 Post Height Adjustment Procedures" and "Tape Interchangeability Adjustment/Confirmation Procedures."

Capstan Rotor Unit, Capstan Holder Unit, and SS Brake Arm Unit

Disassembly Procedure

1. Remove the Capstan Belt.
2. Cut the Stopper with a cutter to remove.
3. Pull up on the Capstan Rotor Unit.
4. Remove 3 Screws (B). Then remove the Capstan Holder Unit.
5. Unhook Spring (B).
6. Turn the SS Brake Arm Unit so that the Tab (A) lines up with the niche. Then, remove the SS Brake Arm Unit.

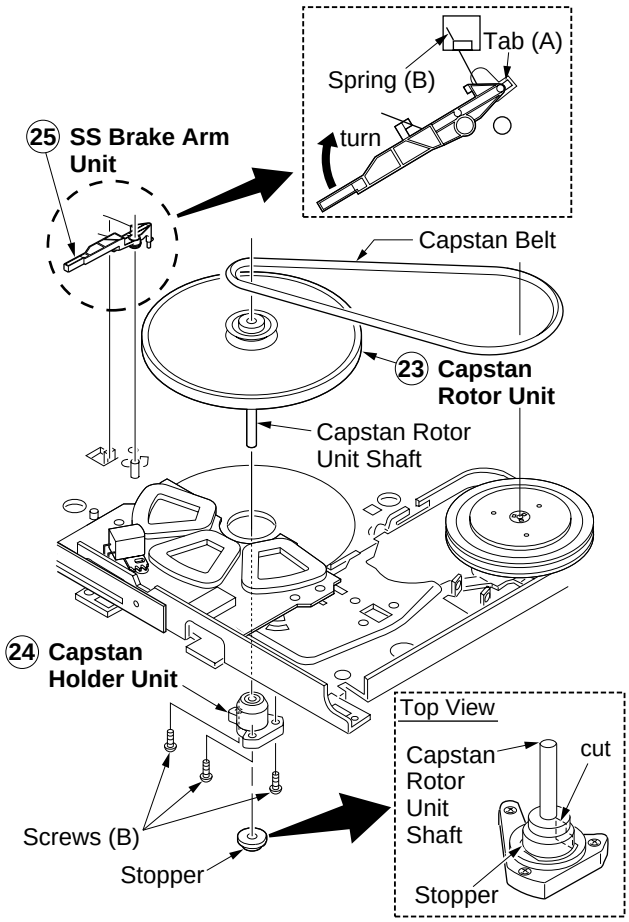


Fig. J11-1

Reassembly Notes

1. **Installation of Capstan Rotor Unit**
   1) Insert the Capstan Rotor Unit Shaft to the hole of the Capstan Holder Unit.
   2) Place a support under the Capstan Rotor Unit shaft. Install the Stopper. Be careful not to scratch the shaft or Capstan Holder Unit.
   3) Remove the support. Press the top end of the shaft down so that the Stopper is properly positioned. You should be able to move the shaft up and down slightly when properly positioned.

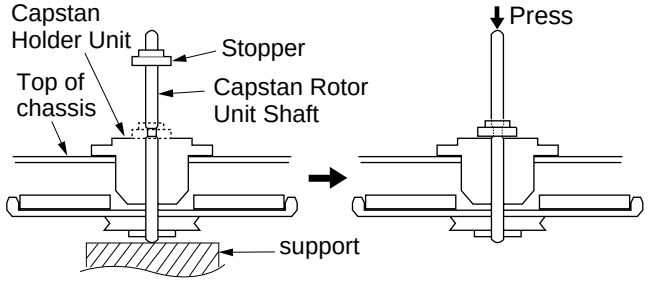


Fig. J11-2

2. **Capstan Rotor Kit**
   Capstan Rotor Unit, Capstan Holder Unit, and Stopper are supplied as a Capstan Rotor Kit only. (Kit No. VXPS0382K) They are not reusable. If removed, install a new one. Because even invisible scratches on the Shaft of Capstan Rotor Unit and the Capstan Holder Unit, made when cutting the Stopper, could cause unstable tape path running.

Junction C.B.A., Capstan Stator Unit, Sub Rotor, and PCB Holder

Disassembly Procedure

1. Remove 2 Screws (C).
2. Unsolder P2532 on the Junction C.B.A. Then, remove the Junction C.B.A.
3. Remove Screw (D) and 2 Screws with Washers (D), (E). Then, remove Capstan Stator Unit, Sub Rotor, and PCB Holder.

CAUTION:

When removing Capstan Stator Unit, avoid touching IC2501 on the Capstan Stator Unit because it is **HOT** during operation.

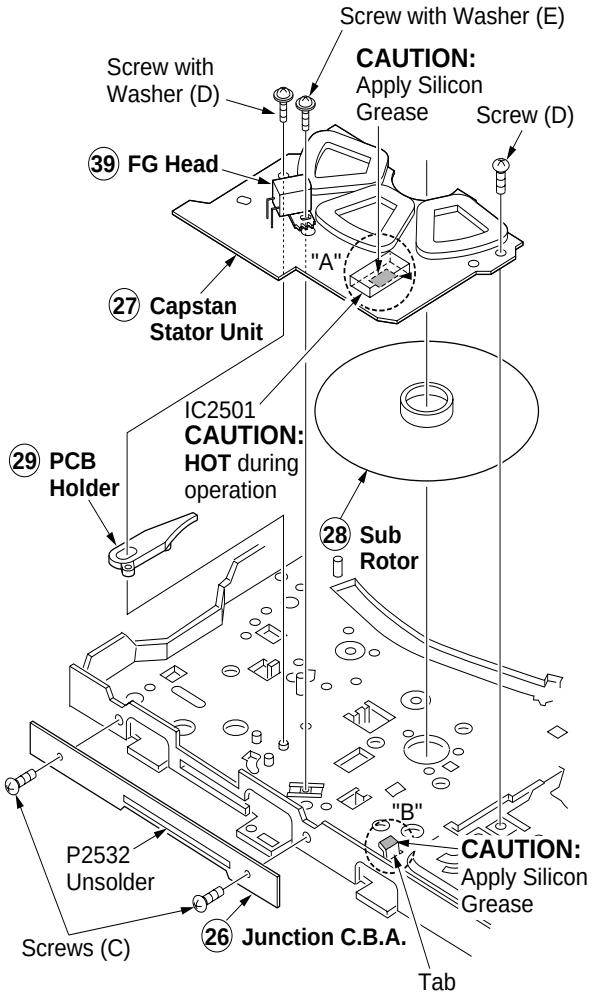


Fig. J12-1

Reassembly Notes

1. **Application of Sillicon Grease**

CAUTION

When installing the IC2501 or Capstan Stator Unit, be sure to apply Silicon Grease (VFK1301) as shown. Be careful not to touch other parts with greased portion to prevent grease depletion.

Silicon Grease Application

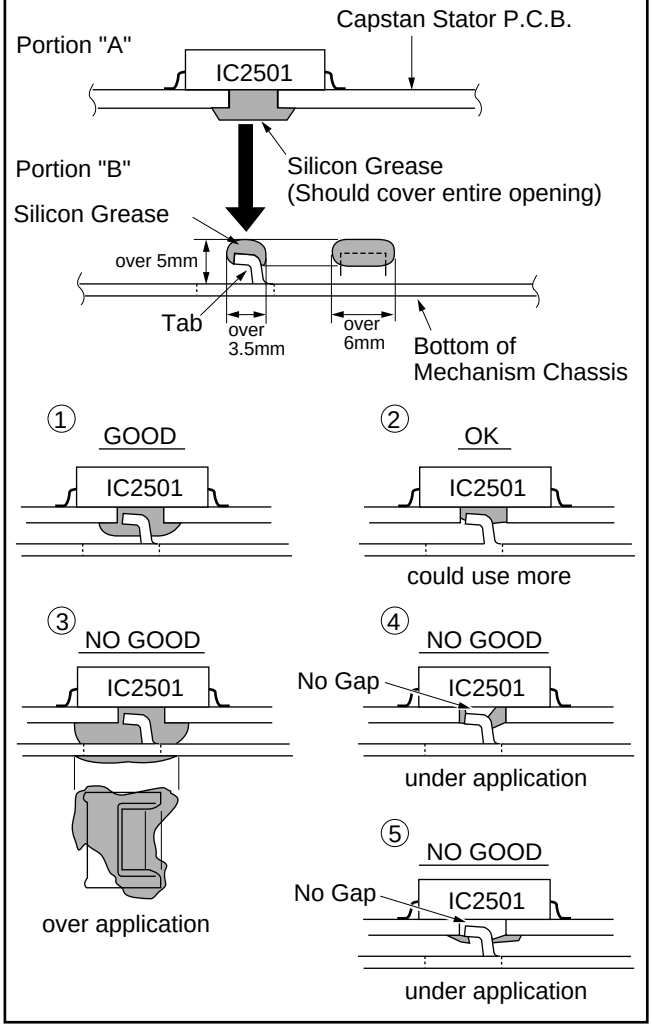


Fig. J12-2

2. **Capstan Stator Kit**
   1) Capstan Stator Unit, Capstan Rotor Unit, Capstan Holder Unit, and Stopper are supplied as a Capstan Stator Kit only (Kit No. VEMS0316K).
   However, IC2501(AN3845SC) is available separately as a replacement part.
   Capstan Rotor Unit, Capstan Holder Unit, and Stopper are not reusable. Install all new parts.
   Because even invisible scratches on the Capstan Rotor Unit shaft and the Capstan Holder Unit, made when cutting the Stopper, could cause tape path instability.
3. **Adjustment of FG Head**
   1) After installing, perform the "FG Head gap Adjustment" procedures.

T Loading Arm Unit and S Loading Arm Unit

Disassembly Procedure

1. Remove the T Loading Arm Unit by pulling it up while releasing Locking Tab (J).
2. Pull up on the S Loading Arm Unit.

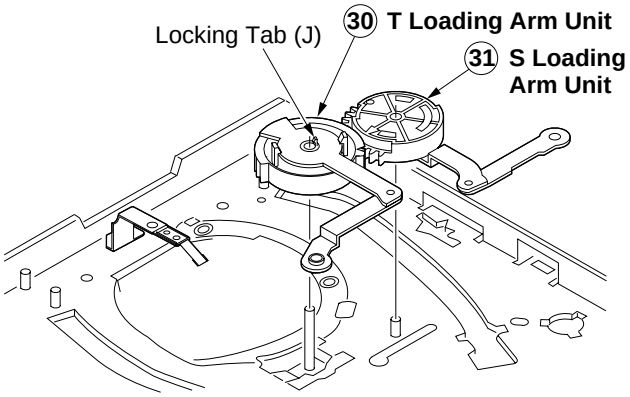


Fig. J13-1

Reassembly Notes

1. **Alignment of T Loading Arm Unit and S Loading Arm Unit**
   1) Slide the Loading Rack so that the holes on it and the holes on chassis line up properly.
   2) Install the S Loading Arm Unit onto the Chassis.
   3) Install the T Loading Arm Unit so that the triangle-shaped indent is aligned with the arrow on the S Loading Arm Unit as shown. Confirm that each of holes on the T Loading Arm Unit, Chassis, and the Loading Rack are through holes.

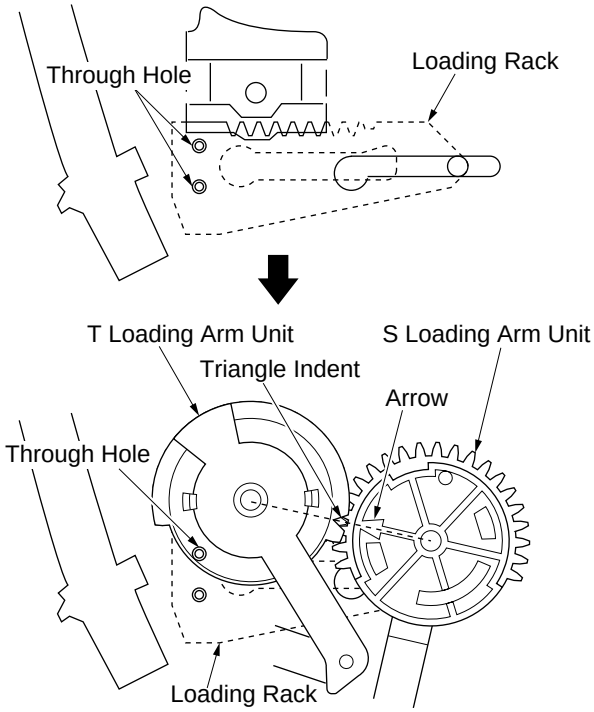
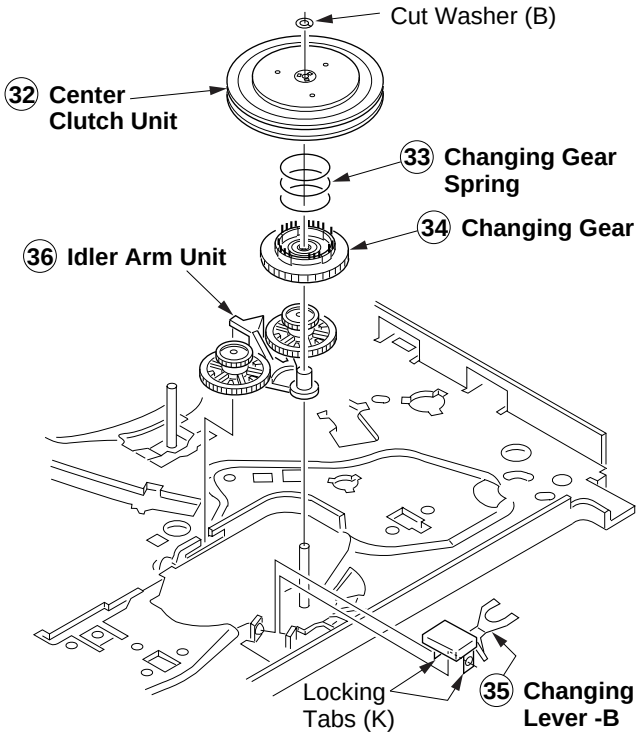


Fig. J13-2

Center Clutch Unit, Changing Gear Spring, Changing Gear, Changing Lever-B, and Idler Arm Unit

Disassembly Procedure

1. Remove Cut Washer (B). Then remove the Center Clutch Unit, Changing Gear Spring, and Changing Gear.
2. Remove Changing Lever -B while releasing 2 Locking Tabs (K).
3. Pull up on the Idler Arm Unit.



Flg. J14-1

Reassembly Notes

1. **Installation of Center Clutch Unit**
   1) Fit the Center Clutch Unit into the Changing Gear as shown.

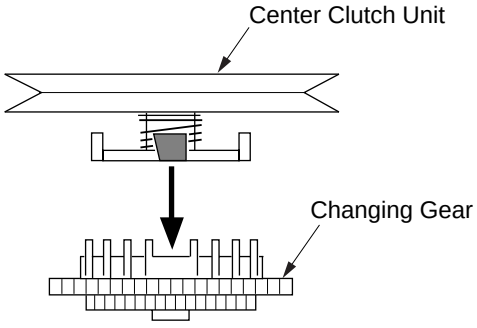


Fig. J14-2

2. Cut Washer (B) is not reusable. If removed, install a new one.

Loading Rack Unit

Disassembly Procedure

1. Slide the Loading Rack Unit as indicated by the arrow. Then, pull up on the Loading Rack Unit.

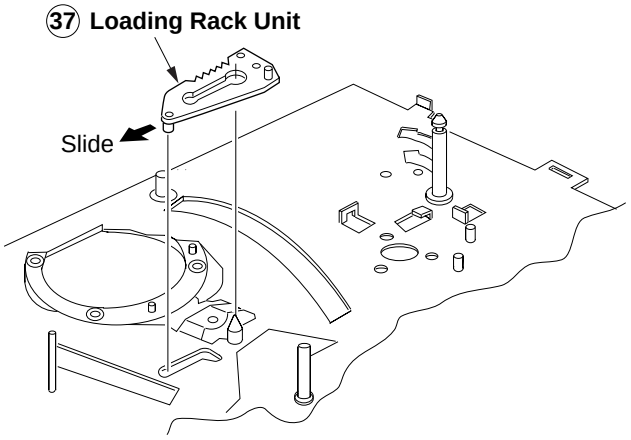


Fig. J15

DISASSEMBLY/ASSEMBLY PROCEDURES OF CASSETTE UP ASS'Y

Top Plate, Wiper Arm Unit, and Holder Unit

Disassembly Procedure

1. Remove Top Plate by releasing 2 Locking Tabs (A) on the left side and 2 Locking Tabs (B) on the right side of the Top Plate.
2. Remove Wiper Arm Unit by releasing 2 Locking Tabs (C). Then, remove the Holder Unit.

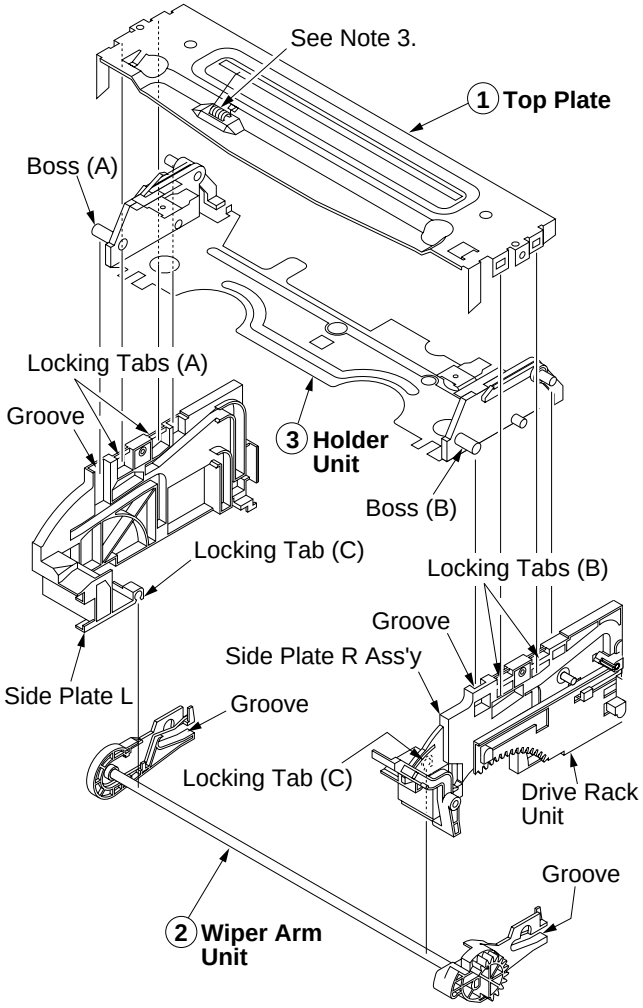


Fig. K1-1

Reassembly Notes

1. **Alignment of Wiper Arm Unit and Drive Rack Unit**
   1) Slide the Drive Rack Unit to the far right as indicated by the arrow.
   2) Install the Wiper Arm Unit so that the hole on the Wiper Arm Unit is aligned with the hole on the Drive Rack Unit.

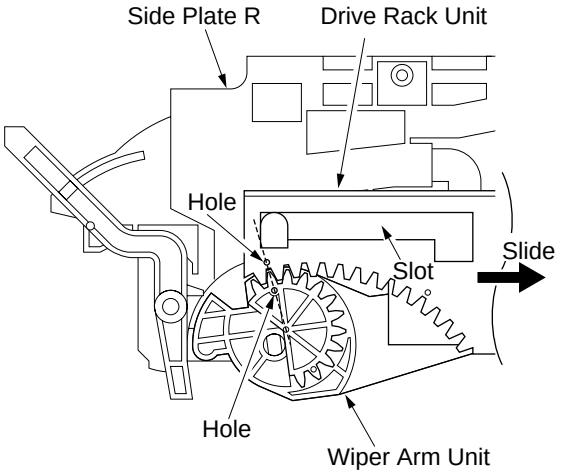


Fig. K1-2

2. **Installation of Holder Unit**
   1) Turn the Wiper Arm Unit so that the grooves on each end are aligned with the grooves on Side Plate L and R.
   2) Insert Holder Unit boss (A) and (B) into the grooves.
   3) Finally, in the EJECT Position, confirm that the protrudence on the Wiper Arm Unit is aligned with the indentation on the Drive Rack Unit.

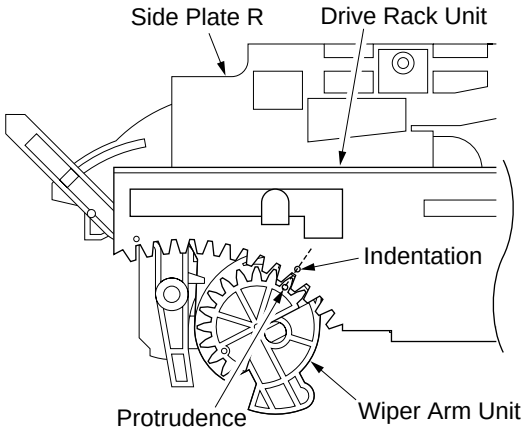


Fig. K1-3

3. As an ESD countermeasure, make sure the spring is in contact with Top Cover.

Sensor Cover, Opener Lever, and Drive Rack Unit

Disassembly Procedure

1. Remove the Sensor Cover by releasing Locking Tab (D).
2. Remove the Opener Lever by releasing Locking Tab (E). Then remove the Drive Rack Unit.

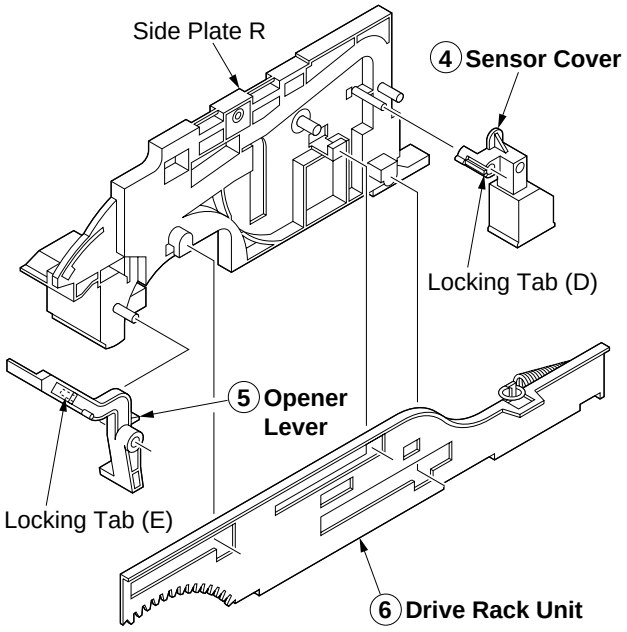
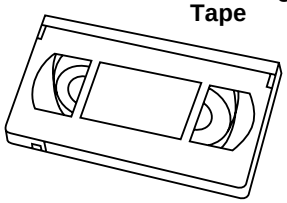


Fig. K2

ADJUSTMENT PROCEDURES

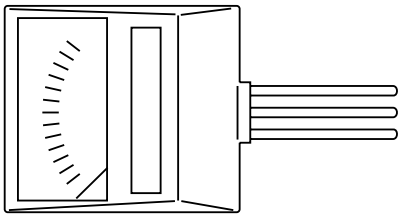
SERVICE FIXTURES AND TOOLS

VFMS0003H6 **VHS Alignment Tape**

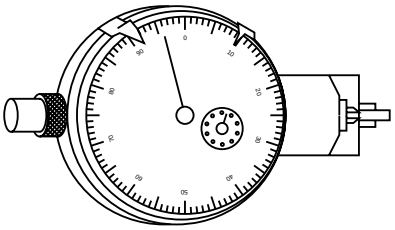


Video	Color Bar & Monoscope
Audio	6kHz(MONO)

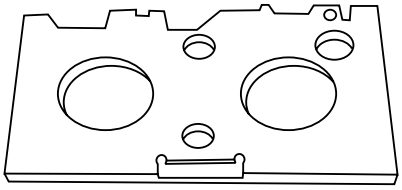
Back Tension Meter (Made in USA., Purchase Locally)



VFKS0009 **Reel Table Height Fixture**

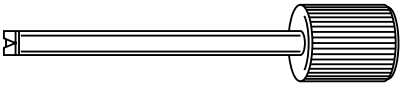


VFKS0010 **Post Adjustment Plate**

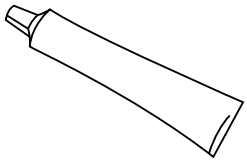


VFKS0081 **Grease**

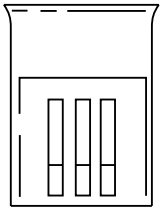
VFK0329 **Post Adjustment Driver**



VFK1301 **Silicon Grease**



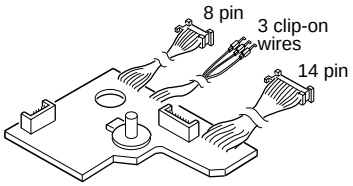
VFK27 **Head Cleaning Stick**



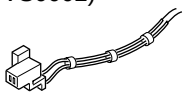
VFK0330 **H-Position Adjustment Driver**

VUZS0002 **Extension Cable Kit**

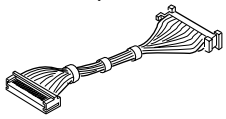
Mode Select SW. Ass'y (VUVS0001)



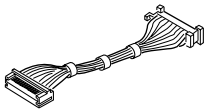
Extension Cable -1 (VUVS0002)



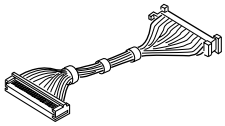
Extension Cable -2 (VUVS0004) for 4 Head Model



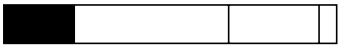
Extension Cable -2 (VUVS0005) for 2 Head Model



Extension Cable -2 (VUVS0003) for Hi-Fi Model



TSM10032-2 **Permalloy Magnetic Strip**



(Model: F, G. H. I)

MECHANICAL ADJUSTMENT

CLEANING PROCEDURE FOR THE UPPER CYLINDER UNIT

1. While slowly turning the Upper Cylinder Unit counterclockwise by hand, gently rub the Video Heads with a Head Cleaning Stick (VFK27) moistened with Ethanol. When using a Cleaning Cassette, make sure to use "DRY" type only and be aware that excessive use can shorten head life.

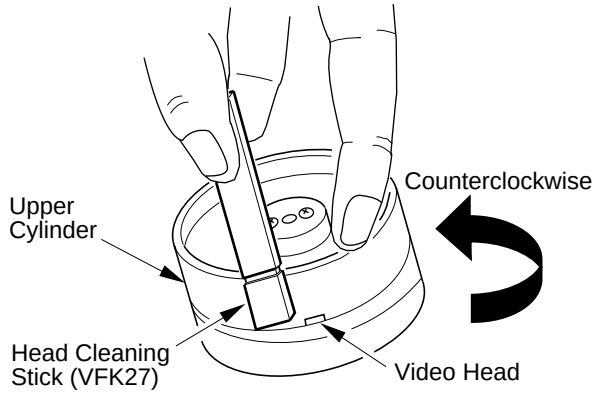


Fig. M1

Note:

1) Do not rub vertically or apply excess pressure to the Video Heads.
   Do not turn the Upper Cylinder Unit clockwise while cleaning.
2) After cleaning, use a Dry Head Cleaning Stick (VFK27) to remove any Ethanol remaining on the cylinder tape path. Otherwise, tape damage will occur.

ADJUSTMENT PROCEDURES

TENSION POST ADJUSTMENT

Purpose:
To maintain a constant tape tension so that the tape runs with stability by performing preliminary adjustment.

Symptom of Misadjustment:
1) If the adjusted value is below the specification, the tape tension is not sufficient, thus causing a tape slack.
2) If the adjusted value is above the specification, the tape tension is too high, thus causing tape damage.

Equipment Required:
2 mm Hex. Wrench ..... (Purchase Locally)

1. Remove the Cassette Up Ass'y.
2. Plug the AC plug into an AC outlet.
3. Place the unit in the Service Mode. Refer to "Service Mode" in the "Service Notes" section of this manual.
   The power comes on and the unit goes into the PLAY Mode.
4. Using a (2 mm) Hex. Wrench, adjust the nut on the Tension Adjust Piece (counterclockwise only) so that there is a space of 1 mm between the left edge of the P1 Post and the right edge of the Tension Post. Make sure that the center of the Hex. Wrench hole is within Area "A".
5. After adjustment, remove the Hex. Wrench.
6. Press the STOP/EJECT button to place the unit in the EJECT Mode.
7. Release the unit from the Service Mode. Refer to "Service Mode" in the "Service Notes" section of this manual.

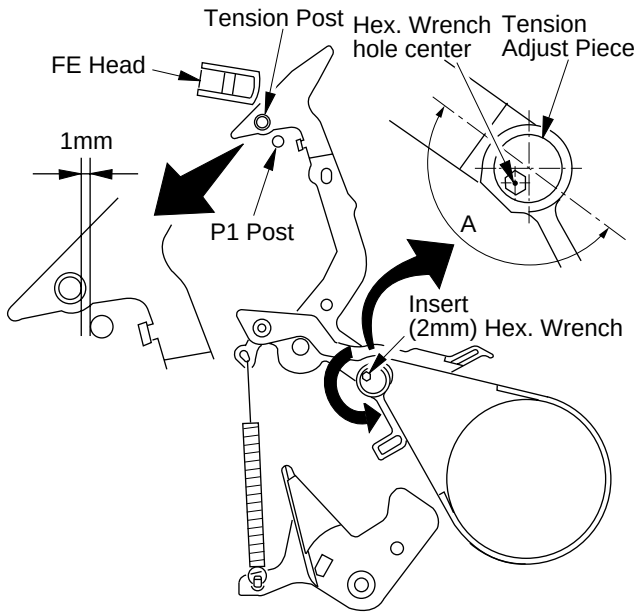


Fig. M2

BACK TENSION CONFIRMATION

Purpose:
To fine adjust the Back Tension so that the tape runs smoothly with a constant tension.

Symptom of Misadjustment:
1) If the tape tension is less than the specified value, the tape cannot come into proper contact with the Video Heads, resulting in poor picture playback.
2) If the tape tension is too high, the tape will soon be damaged.

Measurement Procedure

Equipment Required:
Back Tension Meter (Made in U.S.A., Purchase Locally)
VHS Cassette Tape (120-Minute Tape)

Specification ..... 25 +/- 2.5g

1. Play back a T120 cassette tape from the beginning for approx. 10 to 20 seconds to stabilize tape movement.
2. Insert a Tension Meter into tape path and measure the back tension.
3. If the reading is out of specification, make sure that there is no dust or foreign material between the Tension Band of Tension Arm Unit and the Reel Table.
   If cleaning does not correct the tension measurement, replace the Tension Spring and the Tension Arm Unit.

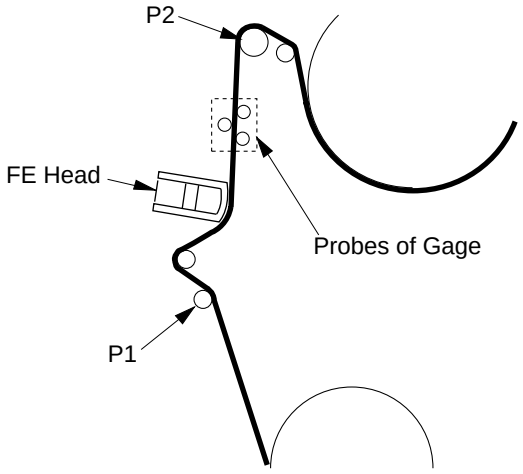
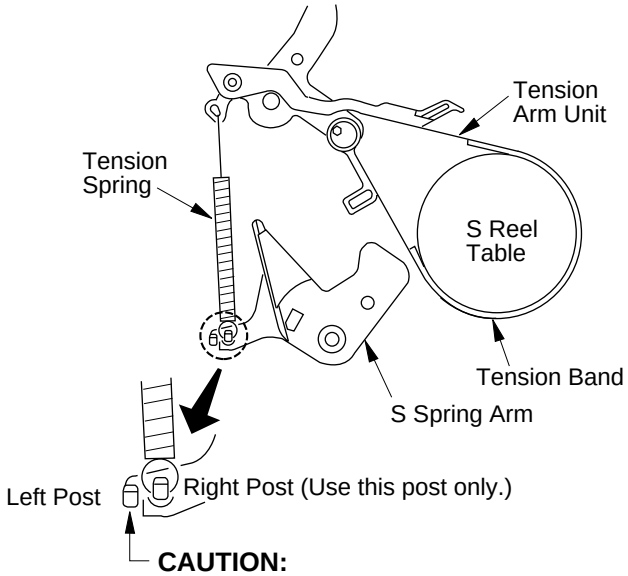


Fig. M3-1

Note:
1) Be sure that the three probes of the meter are all in solid contact with the tape, but not touching any other parts of the mechanism.
2) It is recommended that measurements be repeated at least three (3) times because the tension meter is very sensitive to external vibrations.



CAUTION:
The Left Post will be deleted on running change basis.
DO NOT attach the Spring to the Left Post.

Fig. M3-2

REEL TABLE HEIGHT ADJUSTMENT

Purpose:
To align the height of Supply and Take-Up Reel Tables properly.

Symptom of Misadjustment:
If the height of the Reel Table is not properly aligned, the tape will eventually be damaged.

Equipment Required:
Post Adjustment Plate ..... (VFKS0010)
Reel Table Height Fixture ..... (VFKS0009)

Specification ..... 0 +/- 0.2mm

1. Remove the Cassette Up Ass'y.
2. Position the Post Adjustment Plate over the reels.
3. Place the reel table height fixture on the Post Adjustment Plate so that the foot of the fixture sits in the cutout portion of the Post Adjustment Plate. Then zero the fixture.

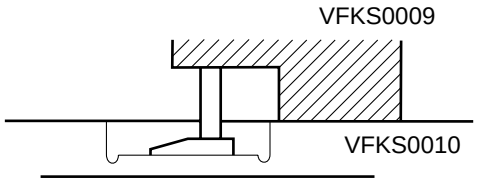


Fig. M4-1

4. Measure to the top edge of each reel table. The height should be 0 +/- 0.2 mm. If the height is not within the specification, add or remove Reel Washers (under the reel table) as necessary.

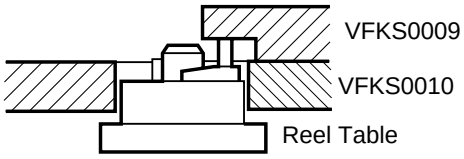


Fig. M4-2

Note:
Reel Washers are available in one size (0.25 mm) only.

FG HEAD GAP ADJUSTMENT

Purpose:
To properly pick up the FG Signal.

Symptom of Misadjustment:
If the FG Signal is not properly picked up, Servo Operation cannot be achieved.

Equipment Required:
Oscilloscope

Specification ..... 0.13 +/- 0.02mm

1. Remove the VCR Chassis Unit and then place it upside down.
2. Remove the Main C.B.A.
3. Slightly loosen Black Screw (A). Then set the Screwdriver (#1 or #2 Phillips Driver) into the Hole (A). Turn the screwdriver counterclockwise until the FG Head touches the rotor. Then turn it slightly clockwise to the clearance as specified.
4. Tighten Black Screw (A).
5. Reinstall the Main C.B.A.

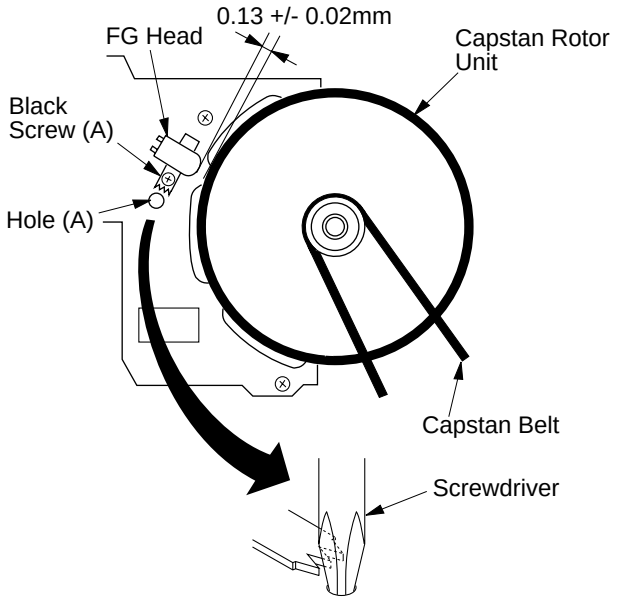


Fig. M5

Note:
Do not touch the outside circumference of the rotor surface with any tool and keep magnetic material away from the rotor magnet (especially metal particles).

Confirmation of Signal Level
1) Supply a Video Signal to the Video Input Jack.
2) Insert a cassette tape and place the unit in SLP recording mode.
3) Connect the oscilloscope to Pin 7 of P2502 on the Capstan Stator Unit.
Confirm that the signal level is greater than 10mVp-p.

P2 AND P3 POST HEIGHT ADJUSTMENT (PRELIMINARY ADJUSTMENT)

Purpose:
To properly align the position of the tape with the Cylinder Lead so that the tape runs with stability.

Symptom of Misadjustment:
1) Since the Envelope Waveform Signal cannot be tracked properly, the Playback picture will be poor.
2) Since the tape does not run smoothly, the tape will eventually be damaged.
3) Tape interchangeability is poor.

Equipment Required:
Post Adjustment Plate ..... (VFKS0010)
Reel Table Height Fixture ..... (VFKS0009)
Post Adjustment Driver .....(VFK0329)

1. Remove the Cassette Up Ass'y.
2. Position the Post Adjustment Plate over the reels.
3. Place the fixture on the Post Adjustment Plate and zero the fixture (DO NOT use the cut-out portion of the post adjustment plate.)

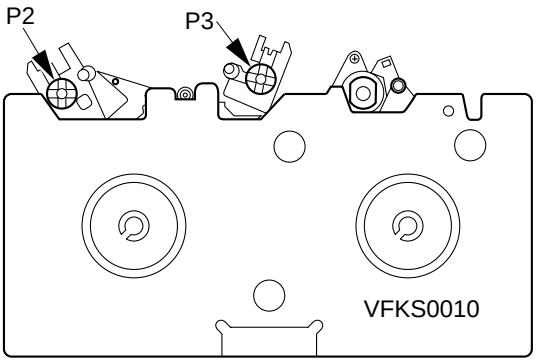


Fig. M6-1

4. Lower each post below the top edge of the Post Adjustment Plate. Then, raise each post until it contacts the foot of the Reel Table Height Fixture. For proper adjustment, the foot of that should be positioned as shown.

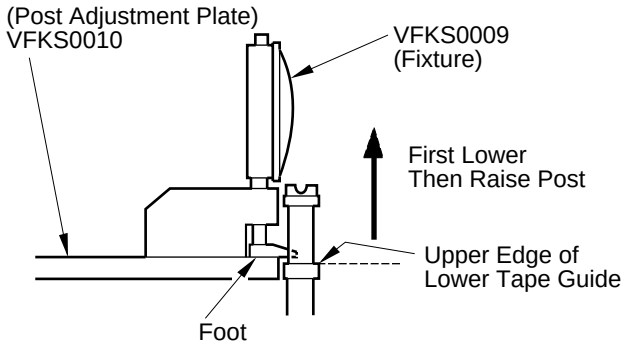


Fig. M6-2

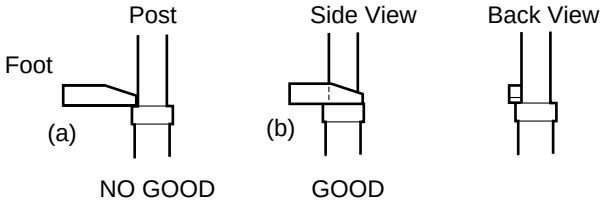


Fig. M6-3

CAUTION:
1) Overtightening P2 and P3 posts may cause the threads to strip.
2) Upon completion of this procedure, perform the "Envelope Output Adjustment/Confirmation Procedures."

TAPE INTERCHANGEABILITY ADJUSTMENT/CONFIRMATION (FINAL ADJUSTMENT)

Note:
To perform these adjustment/confirmation procedures, set the tracking to the neutral position.

Equipment Required:
Dual Trace Oscilloscope
VHS Alignment Tape ..... (VFMS0003H6)
Post Adjustment Driver ..... (VFK0329)
H-Position Adjustment Driver ..... (VFK0330)

1. ENVELOPE OUTPUT ADJUSTMENT/ CONFIRMATION

Purpose:
To achieve a satisfactory picture and secure precise tracking.

Symptom of Misadjustment:
If the envelope is output poorly, much noise will appear in the picture. Then the tracking will lose precision and the playback picture will be distorted by any slight variation of the tracking control circuit.

Equipment Required:
Post Adjustment Driver ..... (VFK0329)

1. Connect the oscilloscope to TP3002 on the Video Signal Process Section of the Main C.B.A. Use TP6205 as a trigger.
2. Place a jumper between TP6003 and +5V(TP6009) on the System Control Section of the Main C.B.A. to defeat Auto Tracking.
3. Eject the tape and insert it again to access the Neutral Tracking position.
4. Play back the alignment tape.
5. With Post Adjust Driver, adjust P2 and P3 post height so that the envelope waveform (V_1/V-max. is 0.7 or more.) becomes as flat as possible (No envelope drop). If the envelope drop appears on the left-half of the waveform, adjust P2 post height. If the envelope drop appears on the right-half of the waveform, adjust P3 post height.

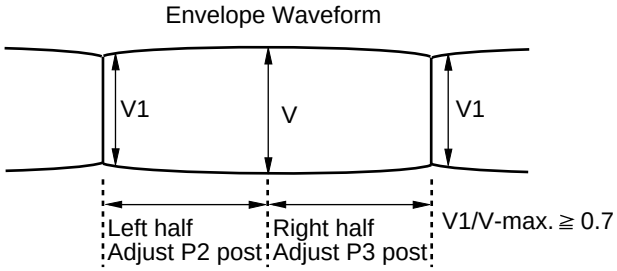


Fig. M7-1

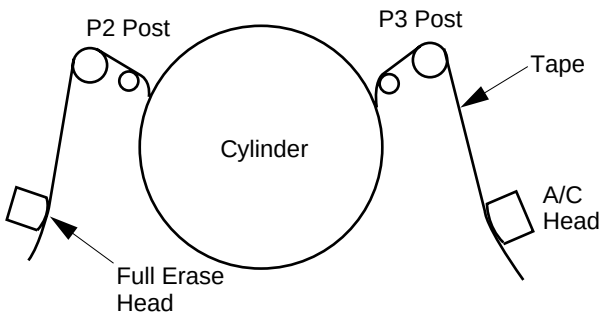


Fig. M7-2

Note:
To confirm adjustment, press the Tracking Control Up or Down button on remote control. Make sure that the envelope waveform remains flat. If not, readjust P2 and/or P3 post heights.

6. After adjustment, confirm that the tape travels without curling at P2 and P3 posts.
7. Remove the jumper after completing the adjustment procedure.

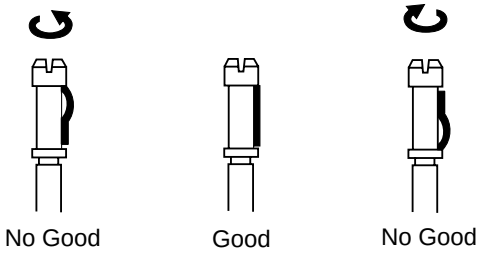


Fig. M7-3

Note:
Overtightening P2 and P3 posts may cause the threads to strip.

2. A/C HEAD TILT CONFIRMATION

Purpose:
To confirm that the tape runs smoothly. In particular, confirm that the tape properly picks up the Audio Signal at the upper part of the head and the Control Signal at the lower part of the head.

Symptom of Misadjustment:
If the tilt of the A/C Head is poorly adjusted, the tape will eventually be damaged. An intermittent Blue screen may be seen in Playback.

1. Play back a T120 cassette tape and check that the tape travels smoothly between the upper and lower guides of the P4 post.
2. If necessary, adjust Black Screw (B) clockwise until the tape begins to curl at the lower edge of the P4 post. Then adjust the screw counterclockwise until the curling is eliminated.

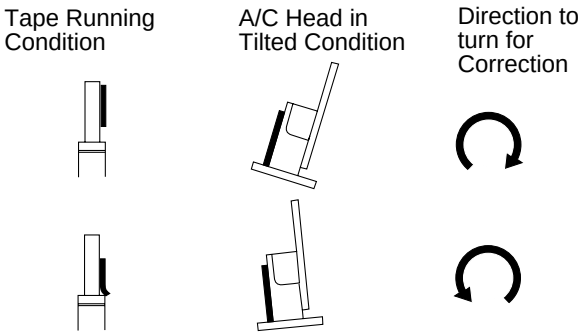


Fig. M8

3. A/C HEAD HEIGHT CONFIRMATION

The height of the A/C Head replacement part is preset at the factory.

Purpose:
To be sure the tape runs properly along the Control Head.

Symptom of Misadjustment:
If the control signal is not properly picked up, Servo Operation cannot be achieved. A Blue screen will be seen in Playback.

This confirmation is required when the A/C Head is replaced.

1. Play back a T120 cassette tape and check that the lower edge of the tape runs approximately 0.25 mm above the lower edge of the A/C Head.
2. If necessary, adjust Black Screws (A) and (B) clockwise to lower the tape or counterclockwise to raise.

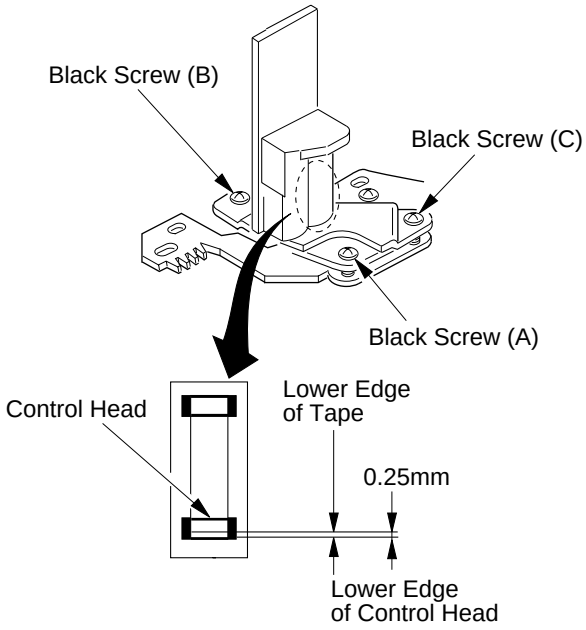


Fig. M9

4. A/C HEAD AZIMUTH ADJUSTMENT

Purpose:
To adjust the position and height of the A/C Head so that it meets the tape tracks properly.

Symptom of Misadjustment:
If the position of the A/C Head is not properly adjusted, the Audio S/N Ratio is poor.

1. Connect the oscilloscope to TP4002 on the Audio Amp Section of the Main C.B.A.
2. Play back the 6kHz Monaural Audio portion of the alignment tape.
3. Adjust Black Screw (C) on the A/C Head base so that the output level is at maximum.

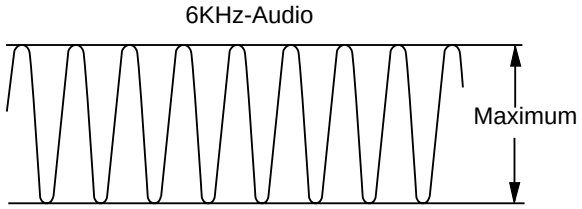


Fig. M10

4. Confirm the height of the A/C Head is proper. If not, readjust Black Screws (A) and (B).

5. A/C HEAD HORIZONTAL POSITION ADJUSTMENT

Purpose:
To adjust the Horizontal Position of the A/C Head.

Symptom of Misadjustment:
If the Horizontal Position of the A/C Head is not properly adjusted, a maximum envelope cannot be obtained at the Neutral Position of the Tracking Control Circuit.

Place a jumper between TP6003 and +5V(TP6009) on the System Control Section of the Main C.B.A. to defeat Auto Tracking.

1. Eject the tape and insert it again to access the Neutral Tracking position. Connect the oscilloscope to TP3002 on the Video Signal Process Section of the Main C.B.A. Use TP6205 as a trigger.
2. Play back the alignment tape and confirm that the RF envelope appears.
3. If adjustment is required, loosen the Black Screw (D) and tighten it lightly. Set the H-Position Adjustment Driver into the Hole (A). Then slowly turn the fixture either clockwise or counterclockwise so that the envelope is at maximum.
4. Before finding the center of the maximum period of the envelope, rotate the fixture back and forth slightly to confirm the limits on either side of the maximum period.
5. Push the Tracking Control Up Button (on the Remote Control) several times (count the number of times pushed) until the maximum envelope is reduced to 1/2.
6. Reset the tracking to the neutral position by ejecting the tape and reinserting it. Push the Tracking Control Down Button (on the Remote Control) several times (count the number of times pushed) until the maximum envelope is reduced to 1/2.
7. If the number of pushing is not the same, then loosen the Black Screw (D) and set the H-Position Adjustment Driver into the Hole (A) to find the center point. Then repeat the above procedure to determine the center point.
8. Tighten Black Screw (D).
9. Remove the jumper between TP6003 and +5V(TP6009).

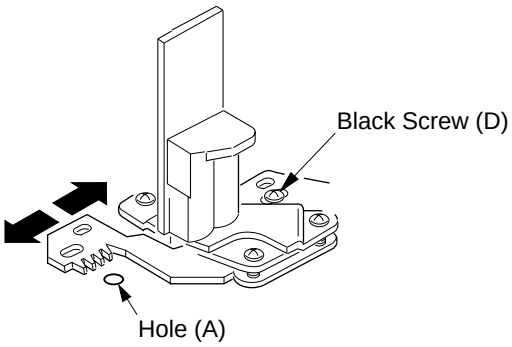


Fig. M11

Note:
Old type of H-Position Adjustment Driver (VFK0136) can be used for this adjustment.

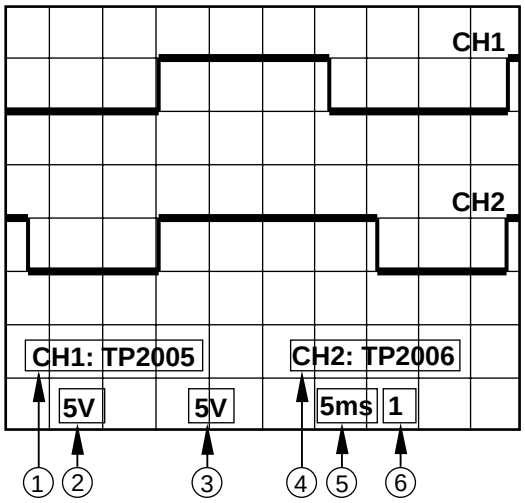
ELECTRICAL ADJUSTMENT PROCEDURES

TEST EQUIPMENT

To do all of these electrical adjustments, the following equipment is required.

1. Dual-Trace Oscilloscope
   Voltage Range : 0.001 to 50V/Div.
   Frequency Range : DC to 50MHz
   Probes : 10:1, 1:1
2. NTSC Video Pattern Generator
3. DVM(Digital Volt Meter)
   Voltage Range : 0.01 to 50V
4. Plastic Tip Driver and Non-Metal Driver
5. Isolation Transformer (Variable)
6. VHS Alignment Tape (VFMS0003H6)
7. Degaussing Coil
8. White Pattern Generator
9. White Balance Meter

HOW TO READ THE ADJUSTMENT PROCEDURES



1. Connecting Point
3. Volts/DIV
5. Time/DIV

2. Volts/DIV
4. Connecting Point
6. Trigger Channel of the Scope
1 : CH1
2 : CH2

Fig. E1

EVR (Electronic Variable Register) Adjustment with the remote control

This unit has electronic technology using I^2C Bus concept. The following control functions are adjusted by using "On Screen Displays" and the remote control instead of adjusting mechanical controls (VR).

Control functions	Range	Default
SUB COLOR	C0 – FF, 00 – 3F	00
SUB TINT	E0 – FF, 00 – 1F	00
SUB BRIGHT	C0 – FF, 00 – 3F	F0
SUB SHARPNESS	E0 – FF, 00 – 1F	00
R CUT -OFF	00 – 7F	1E
G CUT -OFF	00 – FF	3C
B CUT -OFF	00 – FF	3C
G DRIVE	00 – 7F	40
B DRIVE	00 – 7F	40
SUB CONTRAST	00 – 0F	06
H CENTER	00 – 0F	08
V SIZE	00 – 7F	40

Fig. E2-1 Control Functions

HOW TO ENTER EVR ADJUSTMENT MODE

Press and hold STOP, FF, and VOL DOWN button together on the unit over 5 seconds with no cassette inserted. The adjustment overlay will appear.

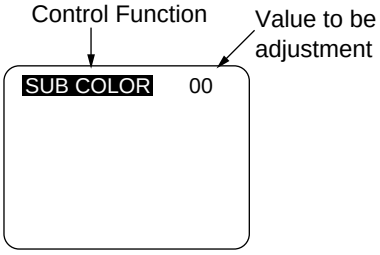


Fig. E2-2

HOW TO ADJUST

1. Press CH UP/DOWN key on the remote control to select control function to be adjusted.

Important Note:

Make a note of the original value of the controls before modifying in case the wrong control is adjusted.

2. Press VOL UP/DOWN key on the remote control so that the shaded area moves to the value.

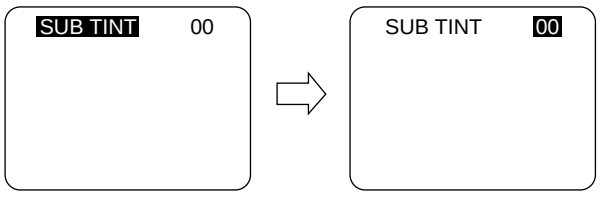


Fig. E2-3

3. Press CH UP/DOWN key on the remote control to adjust the value of the selected control.

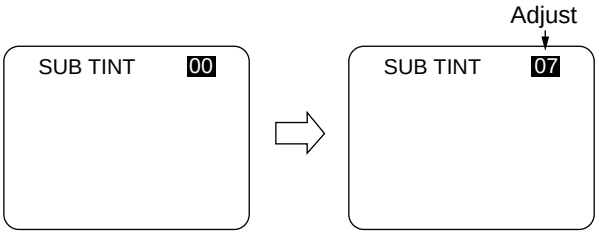


Fig. E2-4

Note:
You can select a desired channel by using the numbered keys on the remote control in EVR adjustment mode.

4. Press VOL UP/DOWN key on the remote control so that the shaded area moves to the control function.

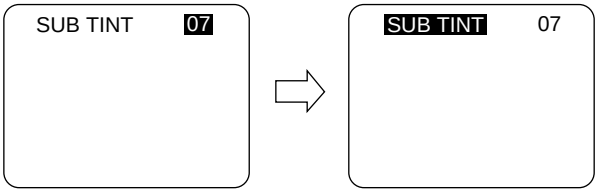


Fig. E2-5

5. Press CH UP/DOWN key on the remote control to select a control function for the next adjustment if necessary.

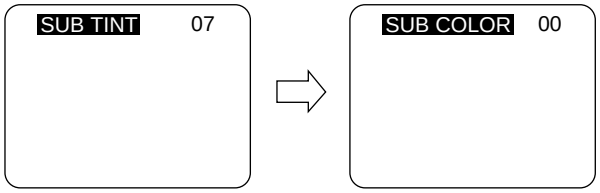


Fig. E2-6

How to release from EVR adjustment MODE

Press and hold STOP, FF, and VOL DOWN button on the unit together over 5 seconds again or press power off and on.

PG SHIFTER ADJUSTMENT

Purpose:
Determine the Video Head Switching Point during Playback.

Symptom of Misadjustment:
May cause Head Switching Noise and/or Vertical Jitter.

Test Point : TP3001 (Main C.B.A.)
TP6205 (Main C.B.A.)
Adjustment : R6201 (Main C.B.A.)
Specification : T = 6 +/- 1H (0.38 +/- 0.06msec.)
Mode : SP Playback
Equipment : Oscilloscope,
VHS Alignment Tape (VFMS0003H6)

1. Connect the channel-1 scope probe to TP3001 and the channel-2 scope probe to TP6205. Trigger from channel-2.
2. Playback the VHS alignment tape and adjust the R6201 (PG SHIFTER) so that the leading edge of the head switching pulse is placed 6H +/- 1H (0.38 +/- 0.06msec.) before the start of the vertical sync pulse.

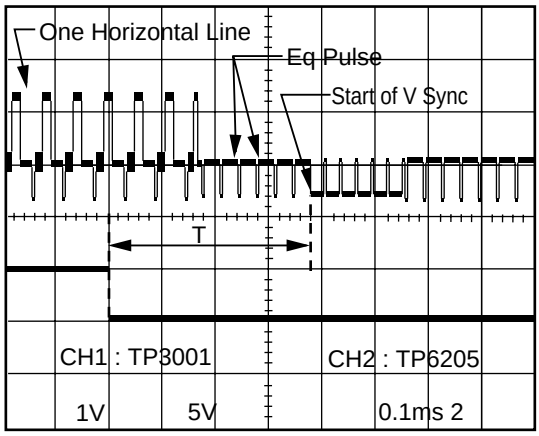


Fig. E3

SEPARATION ADJUSTMENT (Model: I)

Purpose:
To separate the L and R Channels of Stereo Signal.

Symptom of Misadjustment:
The L and R Channels of Stereo Signal will not be separated properly resulting in no stereophonic effect.

Test Point : TP4202 (TV Stereo C.B.A.)
Adjustment : R4901 (TV Stereo C.B.A.)
Specification: minimum level
INPUT : Antenna Input Terminal
MTS (ONLY L CH)
300Hz +/- 5Hz
14% or 7% Modulating
Mode : STOP
Equipment : Oscilloscope, MTS/SAP Signal Generator

1. Connect the RF OUTPUT of the MTS/SAP Signal Generator to the Antenna Input Terminal.
2. Connect the Oscilloscope to TP4202(R CH) on the TV Stereo C.B.A.
3. Adjust R4901 on the TV Stereo C.B.A. so that the signal level is minimum.

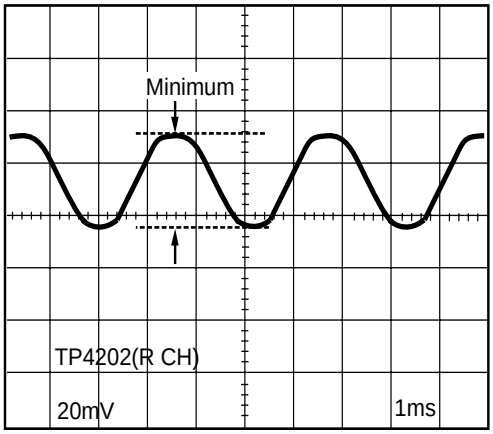


Fig. E4

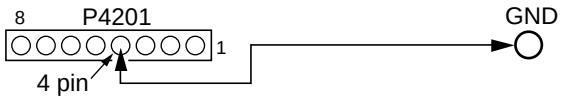
FM VCO ADJUSTMENT (Model: I)

Purpose:
To set VCO free run frequency.

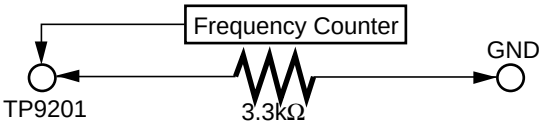
Symptom of Misadjustment:
Even when stereophony is received, only monaural sound will be output.

Test Point : Pin 4 of P4201,
TP9201 (TV Stereo C.B.A.)
Adjustment : R9206 (TV Stereo C.B.A.)
Specification: 38.10kHz +/- 50Hz
Mode : ----------
Equipment : Frequency Counter

1. Disconnect Connector PK2 on the TV Main C.B.A.
2. Connect Pin 4 of P4201 to GND.



3. Connect TP9201 to GND through a resistor (3.3k ohm). Then, connect Frequency Counter to TP9201.



4. Adjust R9206 (FM VCO) so that the frequency is 38.10kHz +/- 50Hz.
5. Connect Connector PK2 after this adjustment is complete.

SUB CONTRAST ADJUSTMENT

Purpose:
To set the optimum sub contrast level.

Symptom of Misadjustment:
The picture is too dark or too light.

Test Point : Pin 5 of PK5 (TV Main C.B.A.)
or TP49 (CRT C.B.A.)
Adjustment : SUB CONTRAST (EVR)
Specification: 3.0 +/- 0.1Vp-p
Input : Video Input Jack
Crosshatch Pattern Signal 1Vp-p
(75 ohm terminated)
Mode : STOP
Equipment : Oscilloscope

1. Reset the control levels to the factory-set levels using the remote control as follows.
   1) Press the MENU key to display the MAIN menu.
   2) Select "TV" and then, press the MENU key to display the SET UP TV menu.
   3) Press the CH UP/DOWN key to select the VIDEO ADJUST. Then, press the VOL UP key to display the VIDEO ADJUST mode.
   4) Press the CH UP/DOWN key to select "NORMAL." Then, press the VOL UP key to return the levels to the factory-settings.
2. Supply a Crosshatch Pattern Signal to the Video Input Jack.
3. Connect the Oscilloscope to Pin 5 of PK5 on the TV Main C.B.A. or TP49 on the CRT C.B.A.
4. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the minimum (C0).
5. Select SUB CONTRAST in EVR adjustment mode and adjust so that the level A is 3.0 +/- 0.1Vp-p.
6. Select SUB BRIGHT in EVR adjustment mode and reset to the original value.

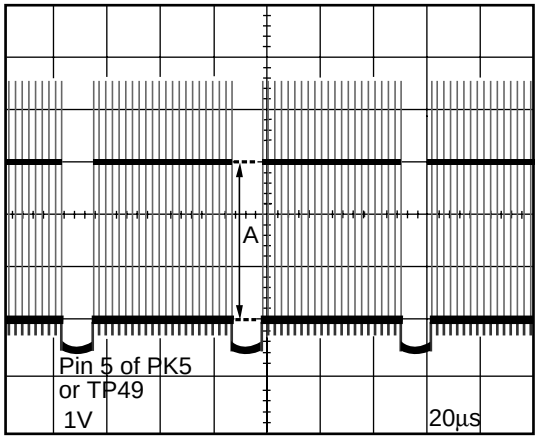


Fig. E5

FOCUS, SCREEN, CUT OFF, DRIVE ADJUSTMENT

Purpose:
To set the optimum Focus and Screen.

Symptom of Misadjustment:
The picture is out of Focus and there will be an improper screen color mix.

Test Point : TP50 (CRT C.B.A.)
Adjustment : FOCUS CONTROL (Flyback Transformer),
SCREEN CONTROL (Flyback Transformer),
SUB BRIGHT (EVR),
B DRIVE (EVR),
R DRIVE (EVR),
B CUT -OFF (EVR),
G CUT -OFF (EVR),
R CUT -OFF (EVR)
Specification: Refer to descriptions below.
Input : Video Input Jack
Monoscope Pattern Signal
Mode : STOP
Equipment : Oscilloscope

1. Supply a Monoscope Pattern Signal to the Video Input Jack.
2. Connect the Oscilloscope to TP50 on the CRT C.B.A. (Use TP47E for GND.)
3. Select SUB BRIGHT and move the shaded area to the value in EVR adjustment mode.
4. Adjust the FOCUS CONTROL on the Flyback Transformer so that the center of picture is the sharpest.
5. Press DISPLAY key (Service Switch) on the remote control for collapse scan.
6. Turn the SCREEN CONTROL on the Flyback Transformer fully counterclockwise.
7. Adjust SUB BRIGHT in EVR adjustment mode so that the level A becomes 150 +/- 5VDC (Model: A, B, C, D, E) or 170 +/- 5VDC (Model: F, G, H, I).

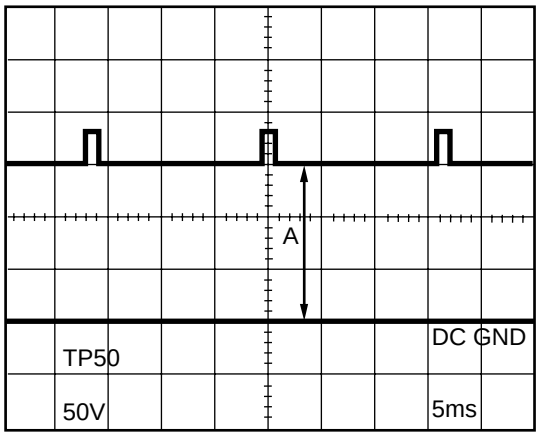


Fig. E6

8. Turn the SCREEN CONTROL on the Flyback Transformer clockwise carefully and stop at the point where any color is first observed.
9. Select B CUT -OFF, G CUT -OFF or R CUT -OFF in EVR adjustment mode and adjust colors which are not observed in step 8 so that the horizontal line is white.
10. Press DISPLAY key on the remote control again to return for full frame scan.
11. Select SUB BRIGHT in EVR adjustment mode and adjust so that the picture has adequate brightness.
12. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the entire screen is white.

Note:
Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

SUB COLOR/SUB TINT ADJUSTMENT

Purpose :
To set the standard color phase.

Symptom of Misadjustment :
Color phase will be shifted.

Test Point : Pin 5 of PK5 (TV Main C.B.A.)
or TP49 (CRT C.B.A.)
Adjustment : SUB COLOR (EVR),
SUB TINT (EVR)
Specification: A = 1.6 +/- 0.15Vp-p
Input : Video Input Jack
Rainbow Color Bar
Mode : STOP
Equipment : Oscilloscope

1. Reset the control levels to the factory-set levels using the remote control. (Refer to Step 1 in the SUB CONTRAST ADJUSTMENT.)
2. Supply the Rainbow Color Bar signal to Video Input Jack.
3. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the minimum (C0).
4. Connect the Oscilloscope to Pin 5 of PK5 on the TV Main C.B.A. or TP49 on the CRT C.B.A.
5. Select SUB TINT in EVR adjustment mode and adjust so that level B is maximum. (level A and C should be equal in amplitude.)
6. Select SUB COLOR in EVR adjustment mode and adjust so that the level B is 1.6 +/- 0.15Vp-p.

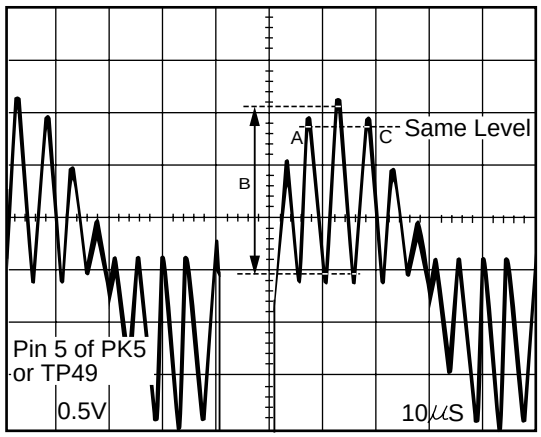


Fig. E7-1

7. Select SUB TINT in EVR adjustment mode and adjust so that level A and B should be equal in amplitude.

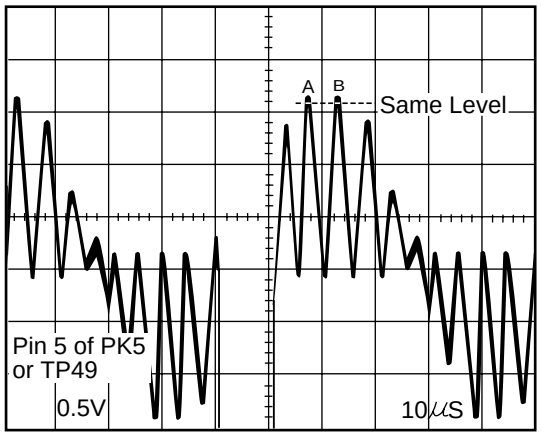


Fig. E7-2

8. Select SUB BRIGHT in EVR adjustment mode and reset to the original value.

PURITY ADJUSTMENT

Purpose:
To set the uniform white over the whole screen.

Symptom of Misadjustment:
The white screen will vary from area to area.

Adjustment : Pair of 4-Pole Convergence Magnet Rings, Pair of 6-Pole Convergence Magnet Rings, Pair of Purity Magnet Rings, Deflection Yoke (CRT Unit)
Specification : Refer to descriptions below.
Input : Video Input Jack
Crosshatch Pattern Signal,
White Pattern Signal
Mode : STOP
Equipment : Oscilloscope, Degaussing Coil

1. Remove the wedges from the CRT.
2. Slide the Deflection Yoke forward to the end of the CRT neck.

   (Model: A, B, C, D, E, G, H)
   Set the Convergence Yoke as specified.
3. Power the unit "ON" and degauss the CRT by the Degaussing Coil.
4. Supply the Crosshatch Pattern Signal to Video Input Jack.
5. Turn the pair of 4-Pole Convergence Magnet Rings so that B and R at the center of CRT overlap each other.
6. Turn the pair of 6-Pole Convergence Magnet Rings so that B and R which overlapped each other in Step 5 overlap G.
7. Supply a White Pattern Signal to Video Input Jack.
8. Select G CUT -OFF in EVR adjustment mode and adjust it to become to the minimum level. Turn the Pair of Purity Magnet Rings so that the distorted color areas are approximately across from each other.
   Slide the Deflection Yoke back slightly (without rotating it) until the distorted color areas disappear from the screen.
9. Supply a Crosshatch Pattern Signal to Video Input Jack again. Confirm that the Center Bar is at the horizontal center line of the CRT and the V-Center Bar is at the vertical center line of the CRT. Then, tighten the Expansion Screw.
10. Press DISPLAY key (Service Switch) on the remote control for collapse scan. Select G CUT -OFF in EVR adjustment mode and Adjust so that the horizontal line is white.
11. Press DISPLAY key on the remote control again to return for full frame scan. Make sure that the entire screen is white. If not, adjust G DRIVE and B DRIVE in EVR adjustment mode.

Note:
Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

(Model: A, B, C, D, E, G, H)

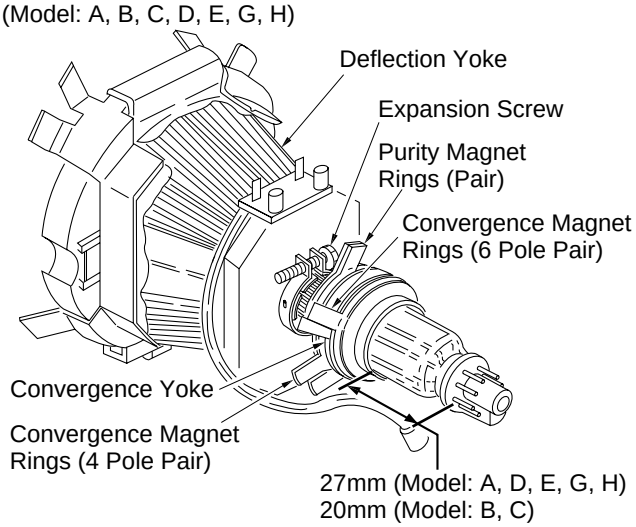


Fig. E8-1

(Model: F, I)

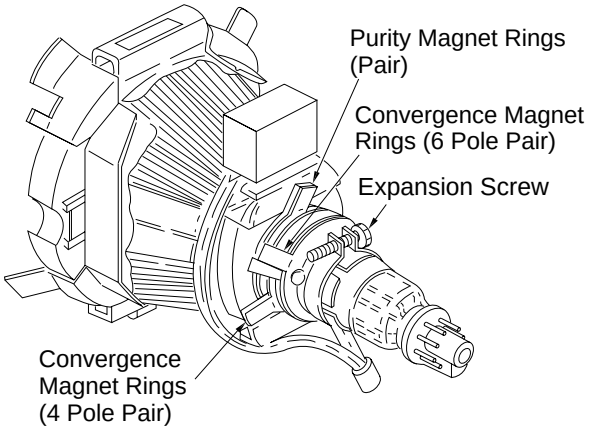


Fig. E8-2

STATIC CENTRAL CONVERGENCE ADJUSTMENT

Purpose:
To set the uniform convergence over the whole screen.

Symptom of Misadjustment:
The convergence on the screen will vary from the center portion to the surrounding edges.

Adjustments : Pair of 4-Pole Convergence Magnet Rings, Pair of 6-Pole Convergence Magnet Rings
Specification: Refer to descriptions below.
Input : Video Input Jack
Crosshatch Pattern Signal
Mode : STOP
Equipment : Oscilloscope

1. Supply a Crosshatch Pattern Signal to the Video Input Jack.
2. Turn the Pair of 4 - Pole Convergence Magnet Rings so that B and R, at center of CRT, overlap each other.
3. Turn the Pair of 6 - Pole Convergence Magnet Rings so that B and R, that overlapped each other in step 2 overlaps G.

DYNAMIC CONVERGENCE ADJUSTMENT

Purpose:
To set the uniform convergence over the whole screen.

Symptom Misadjustment:
The convergence on the screen will vary at the sides of the CRT.

Adjustment : Deflection Yoke (CRT Unit)
Specification: Refer to descriptions below.
Input : Video Input Jack
Crosshatch Pattern Signal,
White Pattern Signal
Mode : STOP
Equipment : Oscilloscope

1. Supply a Crosshatch Pattern Signal to the Video Input Jack.
2. Hold the Deflection Yoke and wiggle it up and down to produce the correct Crosshatch Pattern position.

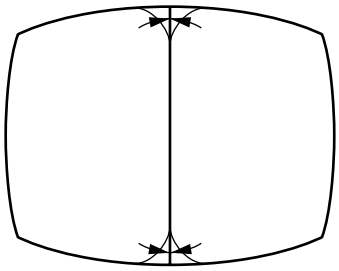


Fig. E9-1

3. Hold Deflection Yoke and wiggle it horizontally (right to left) to produce the correct Crosshatch Pattern position.

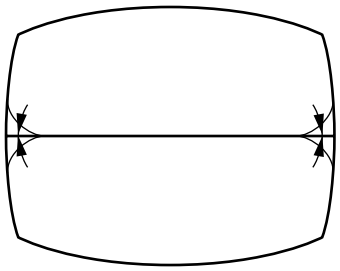


Fig. E9-2

4. Insert three wedges to maintain the correct Crosshatch Pattern Position.

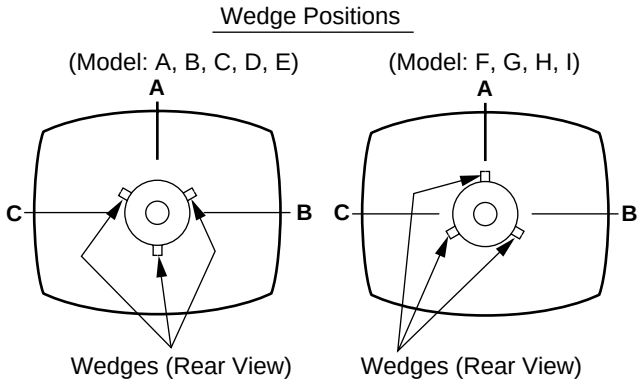


Fig. E9-3

(Confirmation of white)
1. Supply a White Pattern Signal to the Video Input Jack.
2. Confirm that the purity is still correct.
3. If the purity is not acceptable, readjust the purity.

4. (Model: F, G, H, I)
If the convergence error is more than 1.5mm (0.06 inch) from the green dot at each corner, adjust the convergence at that corner with a Permalloy Magnetic Strip. Insert a permalloy strip into the gap between the Deflection Yoke and the CRT along a diagonal line of the CRT bell. Adjust it for the best possible convergence. Use one Permalloy Magnetic Strip in each corner if necessary.
Permalloy Magnetic Strip Part Number (TSM10032-2).

(Model: F, G, H, I)

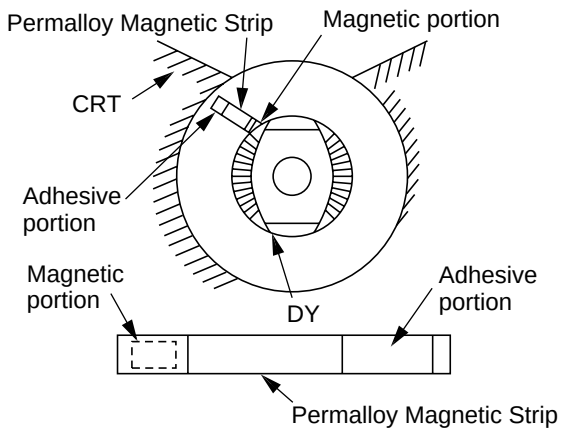


Fig. E9-4

V. HEIGHT/H. POSITION ADJUSTMENT

Purpose :
To set the standard vertical and horizontal picture size.

Symptom of Misadjustment :
The picture size is on the vertical and horizontal axis is abnormal.

Adjustment : V SIZE (EVR),
H CENTER (EVR)
Specification: Refer to below.
Mode : STOP
Input : Video Input Jack
Monoscope Pattern Signal
Mode : STOP

(Model: A, B, C, D, E)

1. Supply a Monoscope Pattern Signal to the Video Input Jack.
2. Select V SIZE in EVR adjustment mode and adjust so that the top 3rd line is just in view.
3. Confirm that the 10th dotted line is in view and that the 11th line is out of view.
   If the lines are not positioned correctly, readjust V SIZE so that the top 3rd line is within +/-2mm from the top edge of the screen. Confirm that the 10th dotted line is in view and that the 11th line is out of view.
4. Select H CENTER in EVR adjustment mode and adjust so that A is approximately equal to width B.

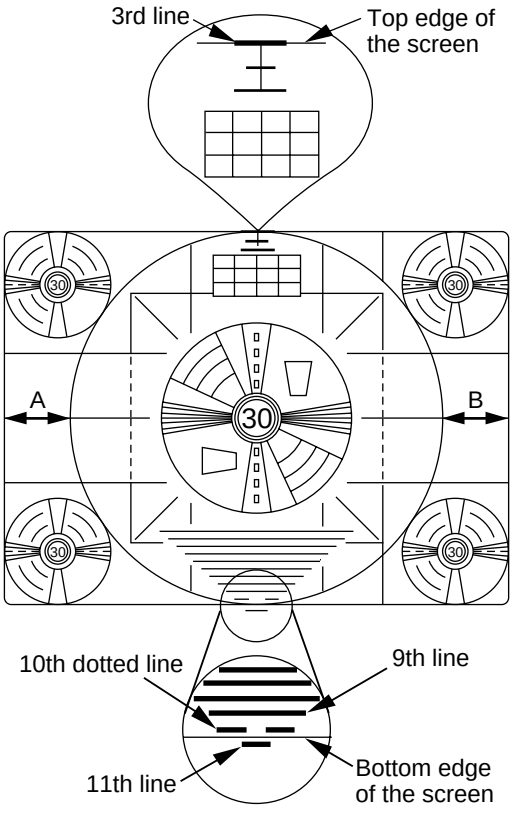


Fig. E10-1

(Model: F, G, H, I)

1. Supply a Monoscope Pattern Signal to the Video Input Jack.
2. Select V SIZE in EVR adjustment mode and adjust so that the top 4th line is just in view.
3. Confirm that the bottom 3rd line is in view and that the bottom 4th line is out of view.
   If the lines are not positioned correctly, readjust V SIZE so that the 11th line is just in view.
4. Select H CENTER in EVR adjustment mode and adjust so that A is approximately equal to width B.

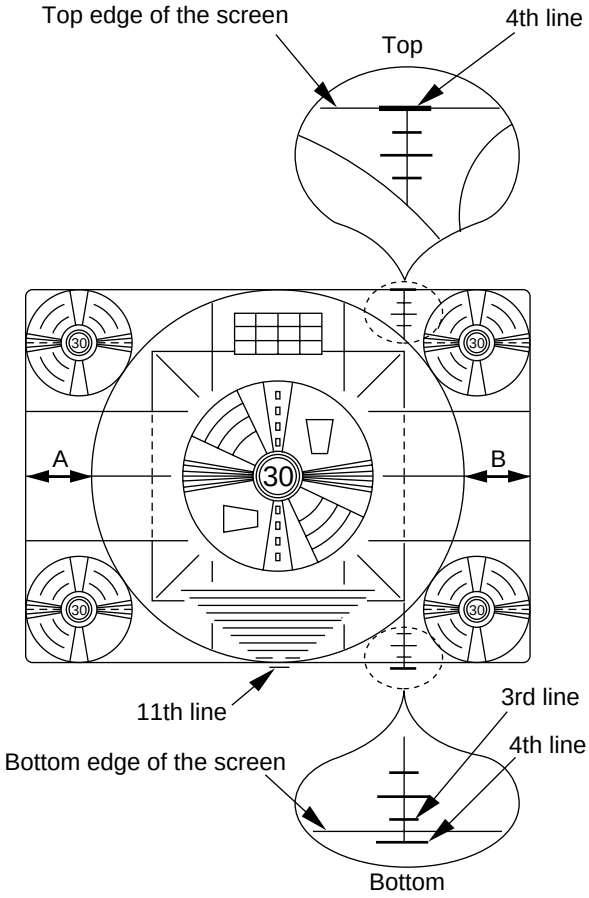


Fig. E10-2

WHITE BALANCE ADJUSTMENT

Purpose:
To set the standard white level for each color temperature.

Symptom of Misadjustment :
White becomes bluish or reddish.

Adjustment : G DRIVE (EVR),
B DRIVE (EVR),
R CUT -OFF (EVR),
G CUT -OFF (EVR),
B CUT -OFF (EVR)
Specification: Refer to descriptions below.
Input : Video Input Jack
White Pattern Signal
Mode : STOP
Equipment : Oscilloscope, White Balance Meter

Method 1
1. Supply a White Pattern Signal to the Video Input Jack.
2. Press DISPLAY key (Service Switch) on the remote control for collapse scan.
3. Turn the SCREEN CONTROL on Flyback Transformer fully counterclockwise.
4. Turn the SCREEN CONTROL on the Flyback Transformer clockwise carefully and stop at the point where any color is first observed.
5. Select B CUT -OFF, G CUT -OFF or R CUT -OFF in EVR adjustment mode and adjust colors which are not observed in step 4 so that the horizontal line is white.
7. Press DISPLAY key on the remote control again to return for full frame scan.
8. Place the photo sensor foot for "JUST FIT" to the CRT.
9. Select SUB BRIGHT in EVR adjustment mode and adjust so that the White Balance Meter (High-Light White, G Meter) is 80 micro A (Model: A, B, C, D, E) or 40 micro A (Model: F, G, H, I).
10. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the White Balance Meter (both G and B Meters) is 0 micro A.
11. Select SUB BRIGHT in EVR adjustment mode and adjust so that the White Balance Meter (CUT-OFF White, R Meter) is 50 micro A.
12. Select G CUT -OFF and B CUT -OFF in EVR adjustment mode and adjust so that the White Balance Meter (both G and B Meter) is 0 micro A.
13. Repeat the step 9 and 10 until both G and B read 0 micro A in the High-Light and Low-Light Modes.

Note:
Before pressing DISPLAY key on the remote control for collapse scan, select the desired control function and move the shaded area to the value.

Method 2 (Alternative to Method 1)

1. Supply a White Pattern Signal to the Video Input Jack.
2. Select G DRIVE and B DRIVE in EVR adjustment mode and adjust so that the entire screen is white.
3. Select SUB BRIGHT in EVR adjustment mode. Then, after making a note of the original value, adjust to the minimum (C0).
4. Select B CUT -OFF, G CUT -OFF or R CUT -OFF in EVR adjustment mode and adjust colors which are not observed so that the entire screen is white.
5. Select SUB BRIGHT in EVR adjustment mode and set it and confirm that the screen is tracking the White Pattern properly.
   Repeat the above steps 2 to 4 until the screen is properly tracking the White Pattern.

SUB BRIGHTNESS ADJUSTMENT

Purpose :
To set the optimum brightness level.

Symptom of Misadjustment :
The picture is too white or too black.

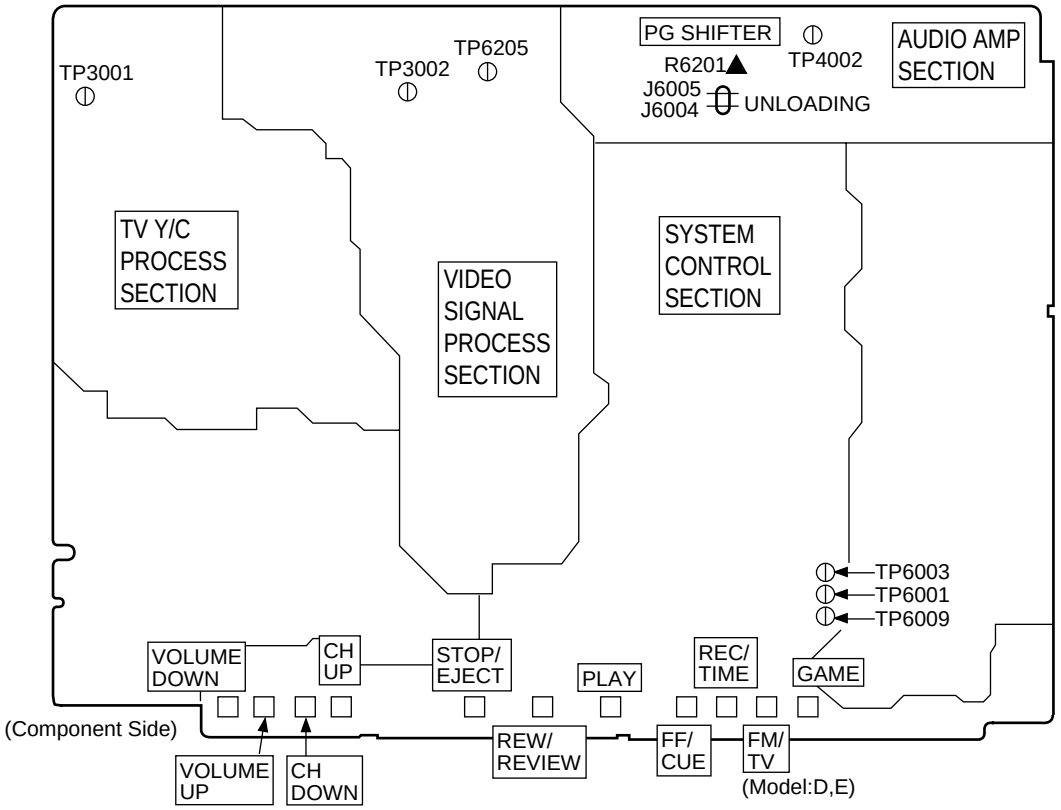
Note:
Perform this adjustment in a darkened room.

Adjustment : SUB BRIGHT (EVR)
Specification: Refer to descriptions below.
Mode : STOP

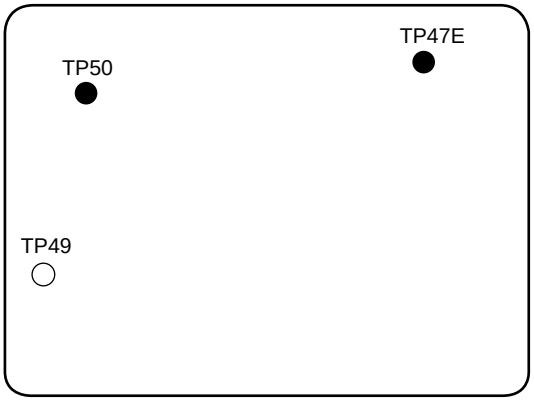
1. Reset the control levels to the factory-set levels using the remote control. (Refer to Step 1 in the SUB CONTRAST ADJUSTMENT.)
2. Do not input any signal to the unit.
3. Set INPUT SELECT item to LINE in SET UP TV menu to display black screen.
4. Select SUB BRIGHT in EVR adjustment mode, and adjust so that the black screen starts to turn grey (lighting only).

TEST POINTS AND CONTROL LOCATION

Main C.B.A. (Model: A ,B, C, D, E)

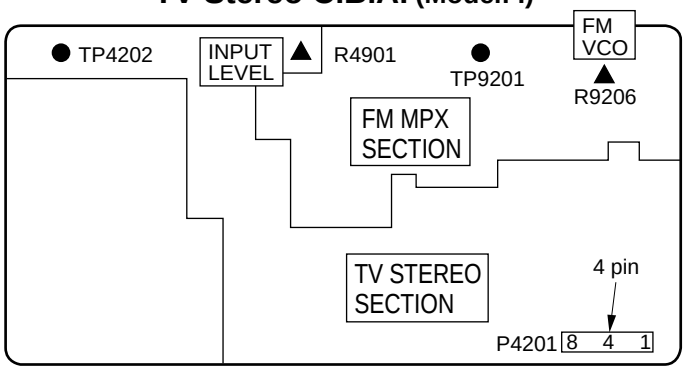


CRT C.B.A.



(Foil Side)

TV Stereo C.B.A. (Model: I)



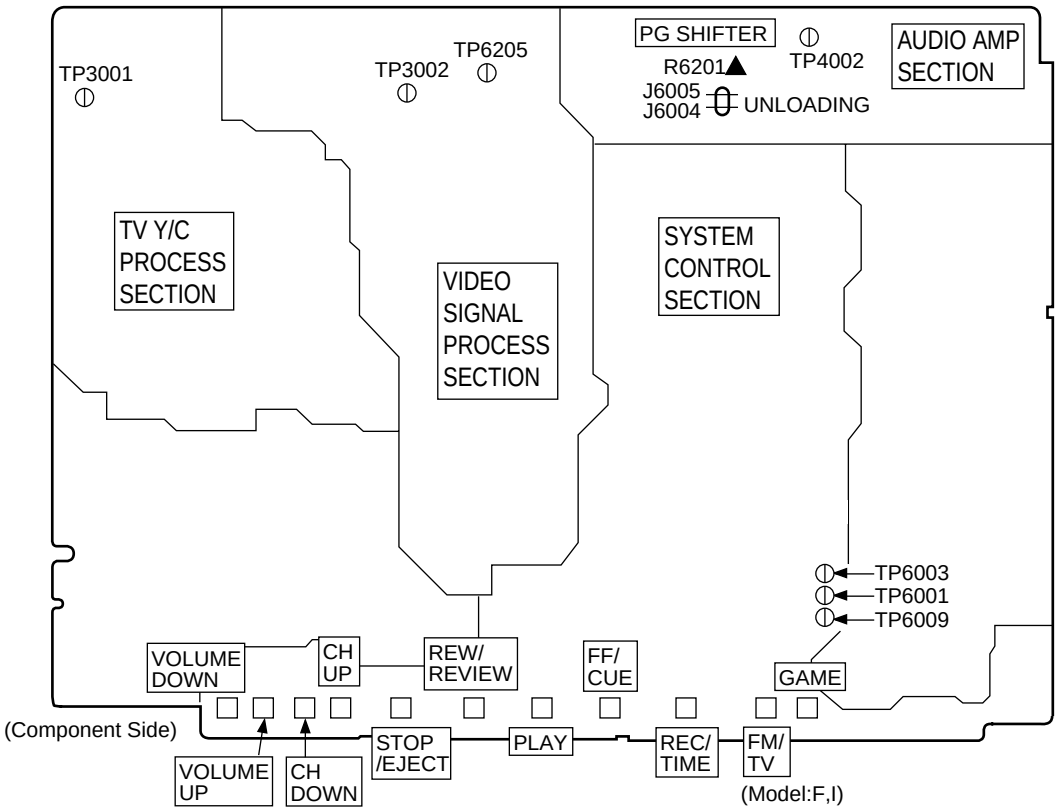
(Foil Side)

Test Point Information

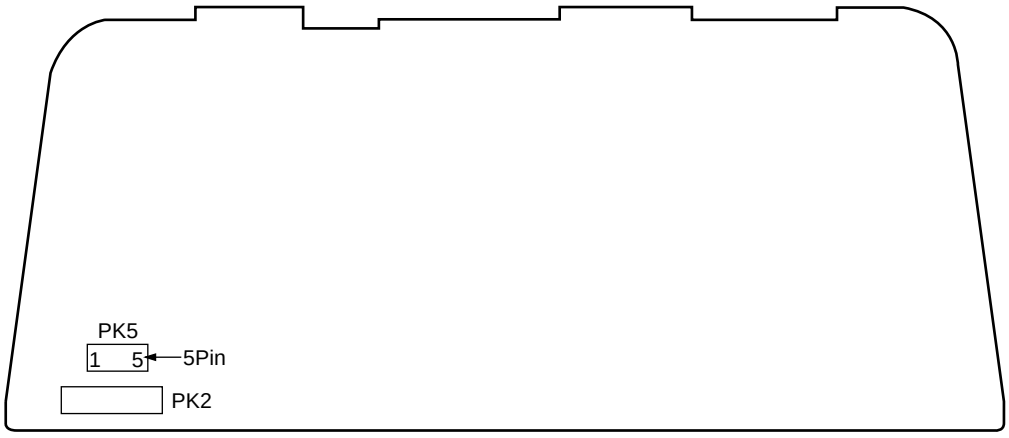
- ● Test Point with a Test Pin.
- ⏀ Test Point with a jumper wire across a hole in the P.C.B.
- ○ Test Point with no Test Pin.

Function of important Test Points on Main C.B.A.	
TP3001	Video signal
TP3002	REC/PB video envelope signal
TP4002	Normal Audio signal
TP6001	Service Test Point (inhibit sensors)
TP6003	defeat auto tracking function (connect to +5V(TP6009))
TP6009	+5V
TP6205	Head SW.

Main C.B.A. (Model: F ,G, H, I)



TV Main C.B.A.



(Component Side)

SCHEMATIC DIAGRAMS

SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

Important safety notice

Components identified by the sign ⚠ have special characteristics important for safety . When replacing any of these components. Use only the specified parts.

Replacement parts

1. Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.
3. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

Test point information

Ⓘ :Test point with a jumper wire across a hole in P.C.B.
:Test point with a component lead on the foil side.
:Test point with no test pin.
:Test point with a test pin.

How to read Schematic and C.B.A. Diagrams

1. The Mark "■ " indicates leaded component.

Example: ■ R1002

2. Voltage Measurement

a. Color bar signal in SP mode.
b. ---:Unmeasurable or not necessary to measure.

3. Indication for Zener Voltage of Zener Diodes

The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

Example:
(6.2V).....Zener Voltage

4. How to identify Connectors on Schematic Diagrams

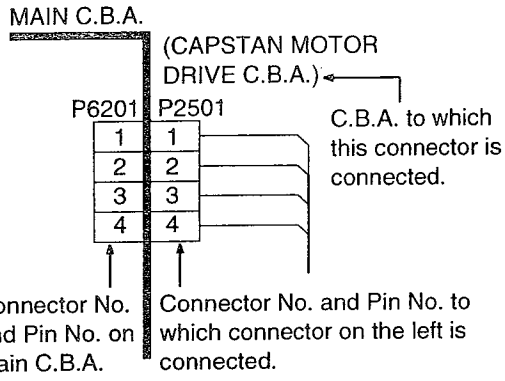
Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.

Connections between large P.C.B.s and small circuit boards are illustrated on the large P.C.B. Schematics.

Use the interconnection schematic diagram to find the connection between associated connectors.

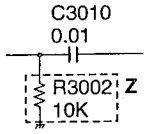
Example:

The connections between C.B.A.s are as shown below.



5. Parts enclosed in dashed lines marked "Z" are not used in any models included in this service manual.

Example:



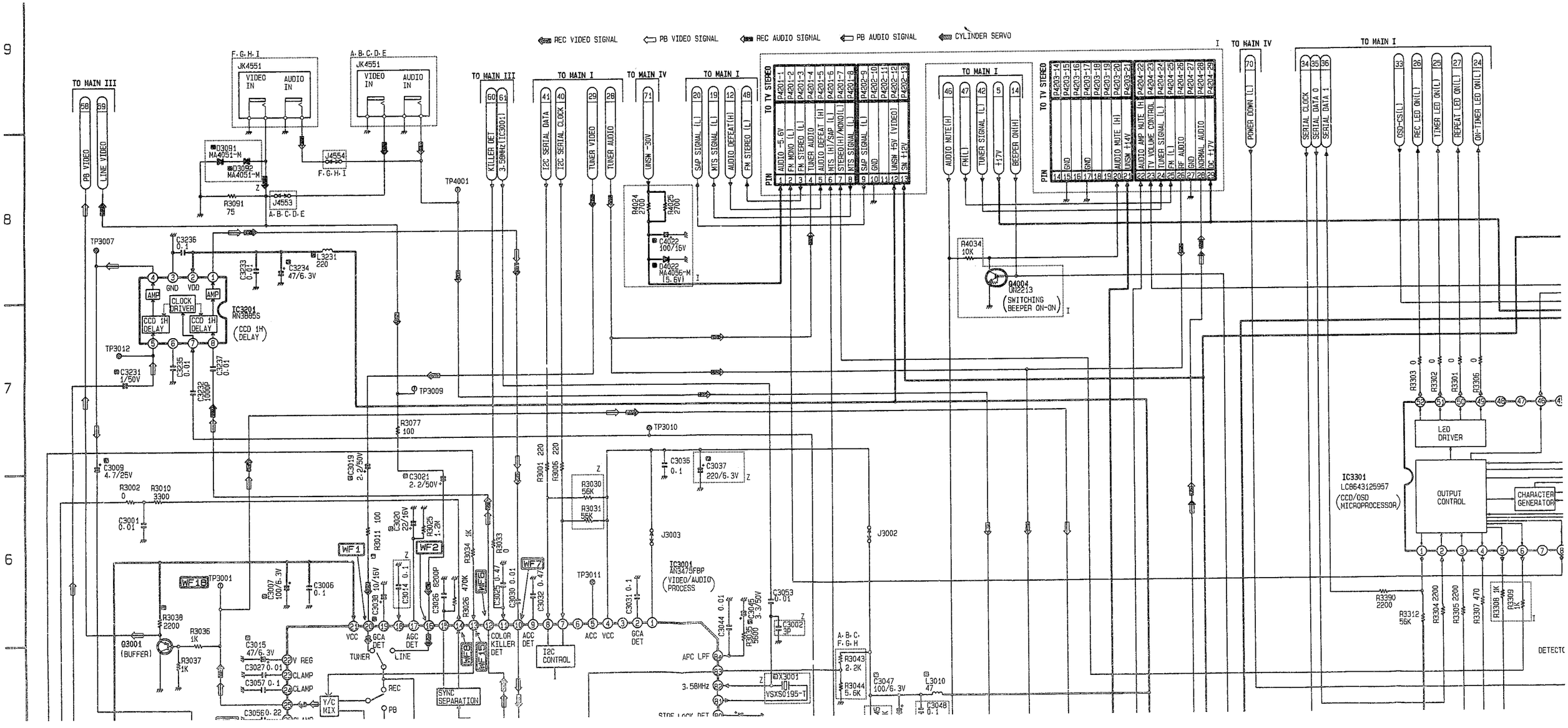
Comparison chart of models & marks used in Schematic and C.B.A. Diagrams

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not used in any models	Z

Note : Refer to item 5 for mark "Z".

MAIN II (SIGNAL PROCESS/OSD/AUDIO AMP) SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOT
REFER TO BEGINNING OF SCHEMATIC SECTION.

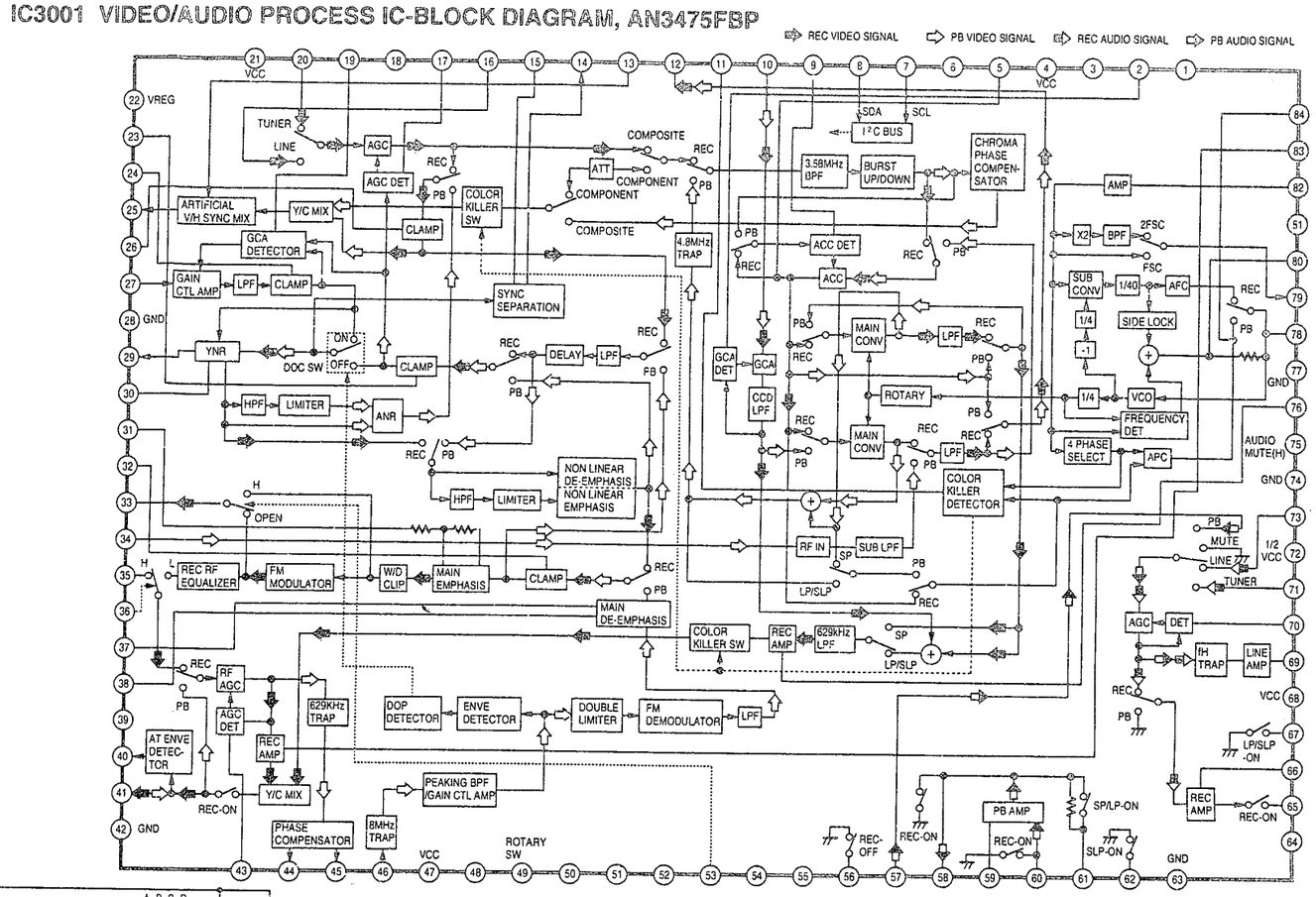


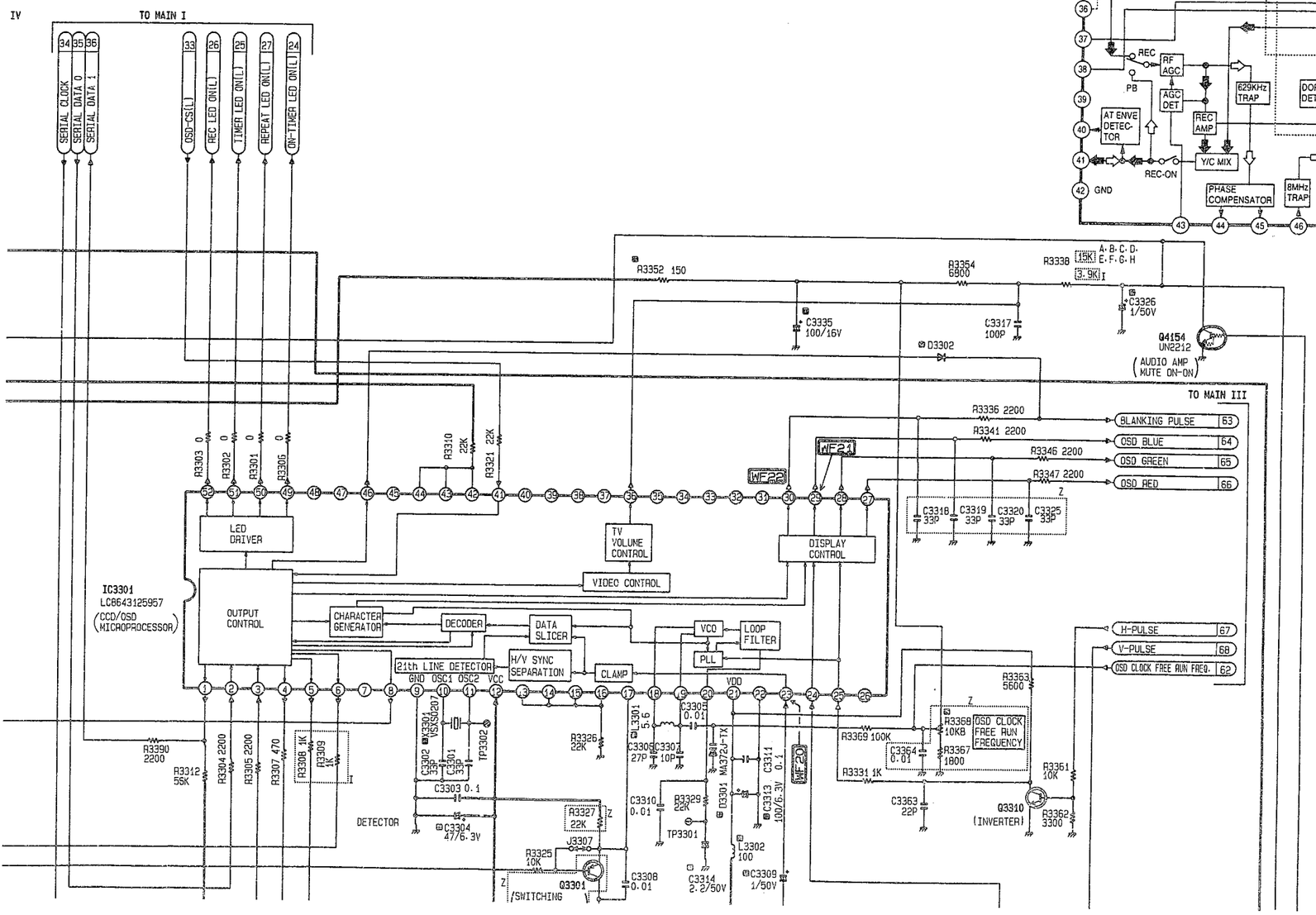
:
)R SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
EFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

IC3001 VIDEO/AUDIO PROCESS IC-BLOCK DIAGRAM, AN3475FBP





MAIN II VOLTAGE CHART

MODE / PIN NO.	REC	PLAY
IC3001		
1	5.1	5.1
2	3.3	3.3
3	---	---
4	5.1	5.1
5	4.3	4.3
6	---	---
7	4.2	4.2
8	4.0	4.0
9	2.2	2.2
10	2.8	2.8
11	0.8	0.8
12	2.8	2.8
13	0.4	0.4
14	0.5	0.5
15	1.0	1.0
16	3.1	3.9
17	2.3	1.8
18	3.1	3.1
19	2.6	2.6
20	3.1	3.4
21	5.1	5.1
22	2.0	2.0
23	2.5	2.5

MODE / PIN NO.	REC	PLAY
IC3201		
1	3.4	3.4
2	5.1	5.1
3	0	0
4	3.2	3.2
5	2.9	3.4
6	-2.7	-2.7
7	2.1	2.1
8	3.0	3.0
IC3301		
1	4.2	4.2
2	4.7	4.7
3	5.0	5.0
4	0	0
5	5.1	5.1
6	0	0
7	---	---
8	5.1	5.1
9	0	0
10	2.6	2.6
11	2.4	2.4
12	5.1	5.1
13	0.6	0.6
14	0.6	0.6

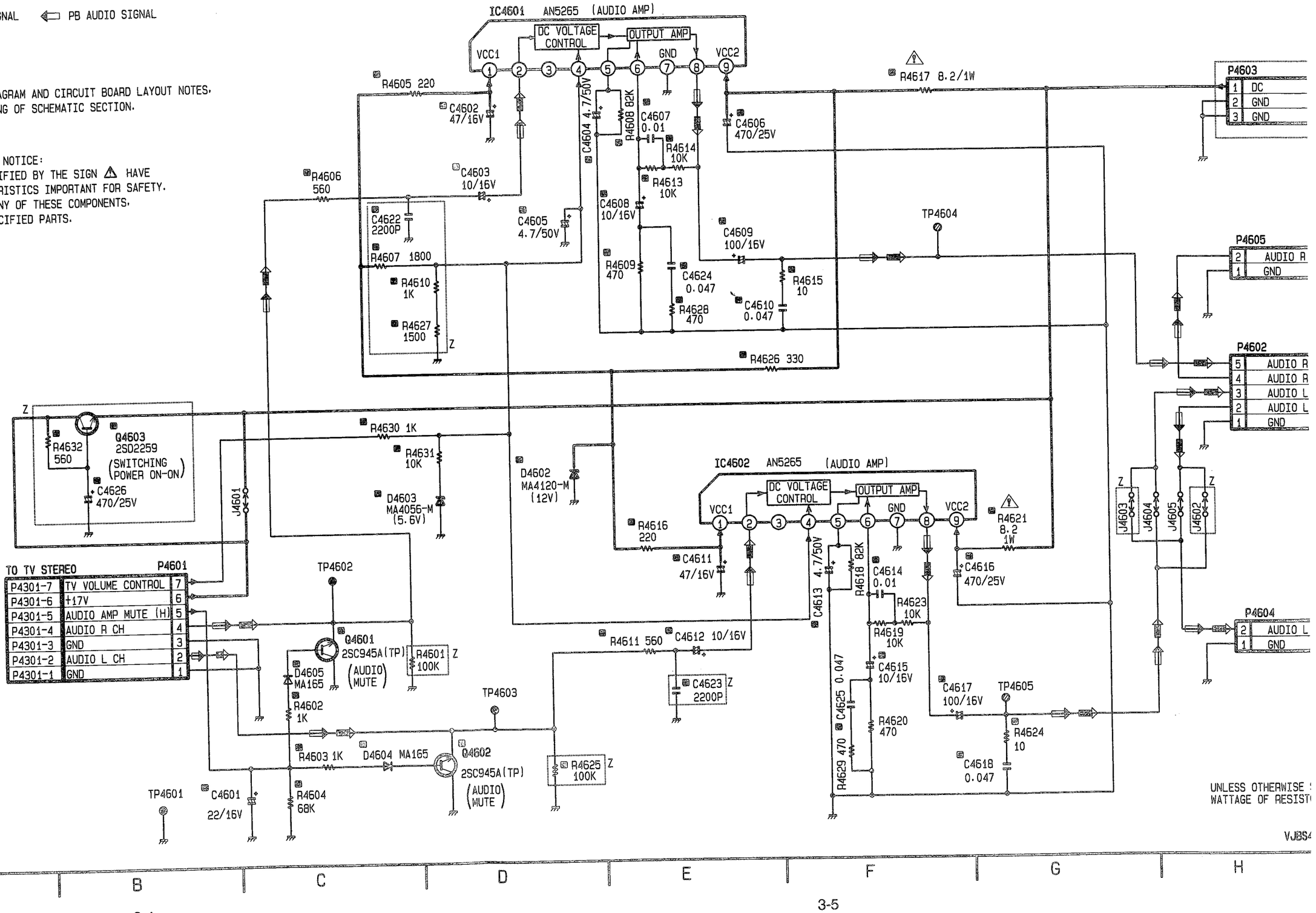
MODE / PIN NO.	REC	PLAY
Q3311		
E	1.7	1.7
C	0	0
B	1.0	1.0
Q3314		
E1	1.5	1.5
E2	1.5	1.5
C1	5.1	5.1
C2	1.7	1.7
B1	2.1	2.1
B2	1.9	1.9
Q3315		
E	1.7	1.7
C	5.0	5.0
B	5.1	5.1
Q4001		
E	5.1	5.1
C	-20.2	5.1
B	5.1	4.3
Q4002		
E	-21.0	0
C	0	0
B	-14.1	0
Q4003		

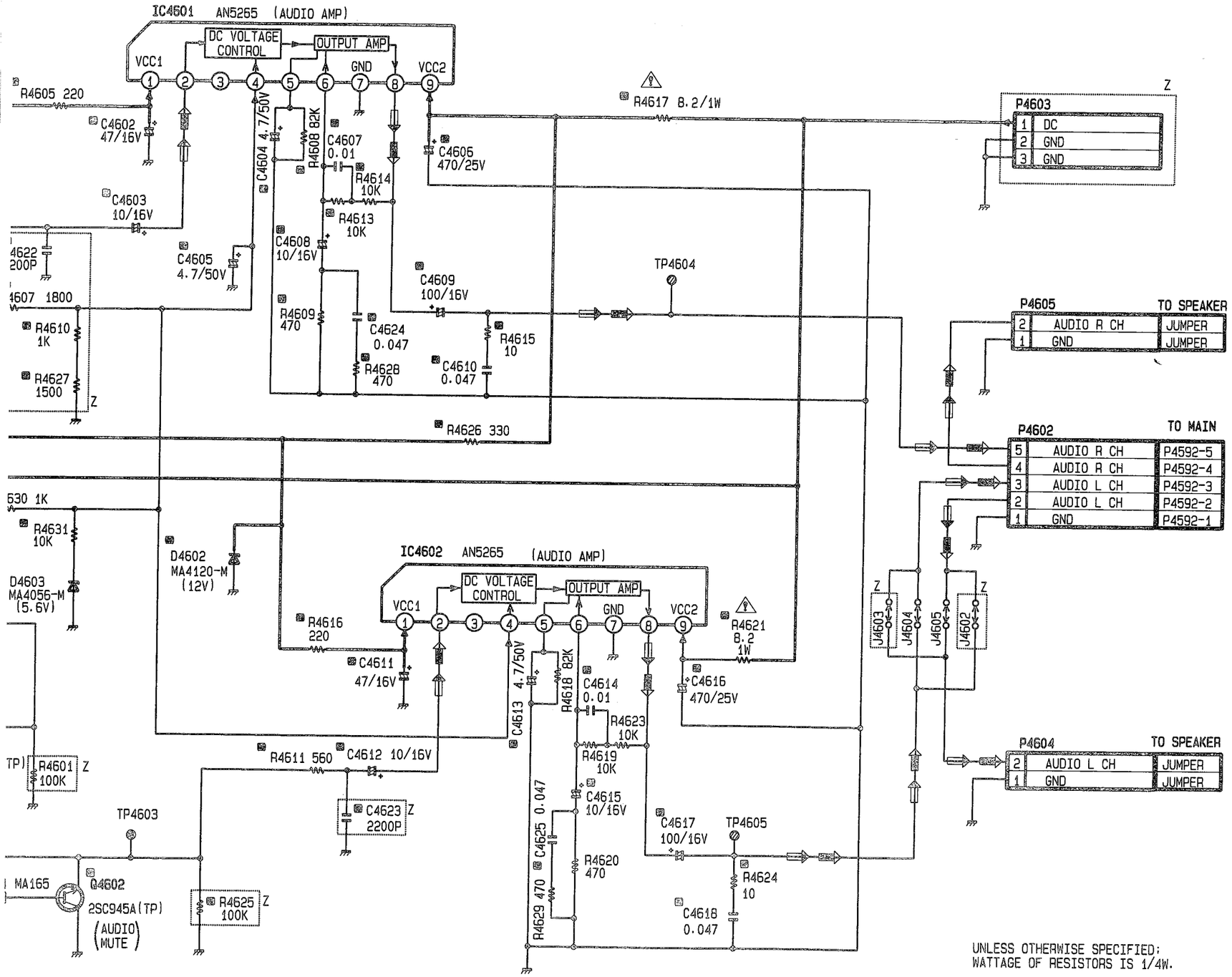
STEREO AMP SCHEMATIC DIAGRAM (I)

⇦ REC AUDIO SIGNAL ⇦ PB AUDIO SIGNAL

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.





UNLESS OTHERWISE SPECIFIED:
WATTAGE OF RESISTORS IS 1/4W.

VJBS4014

STEREO AMP VOLTAGE CHART

MODE / PIN NO.	REC	PLAY
IC4601		
1	9.8	9.8
2	2.6	2.6
3	---	---
4	2.5	2.5
5	6.8	6.8
6	6.9	6.9
7	0	0
8	7.1	7.1
9	16.1	16.1
IC4602		
1	9.8	9.8
2	2.6	2.6
3	---	---
4	2.5	2.5
5	6.8	6.8
6	6.9	6.9
7	0	0
8	7.1	7.1
9	16.1	16.1
Q4601		
E	0	0
C	0	0
B	0	0
Q4602		
E	0	0
C	0	0
B	0	0
TP4601	0	0
TP4602	0	0
TP4603	0	0
TP4604	6.2	6.2
TP4605	6.2	6.2

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

MAIN I (POWER SUPPLY/SYSTEM CONTROL/SERVO/) SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AN
REFER TO BEGINNING OF SC

※1 IC60

MN6
MN6
MN6

CAPSTAN SERVO
CYLINDER SERVO

TO MAIN IV
1 UNSW +14V
2 POWER DOWN (L)
3 UNSW +37V
4 UNSW +5V(SYSCON)

PR1050 UN10015 /ICP-F38-1 /VSFS0029D25
PR1054 UN11010
TP1053
TP1058
TP1052
TP1051
TP1055

Q1051 2SC3852 /2SD2375(P,Q) (+12V REGULATOR)
D1055 Z
D1052
D1053
D1051 MA4100N (10V)
C1052 10/16V
C1051 0.47/50V
R1052 15K
R1053 15K
R1057 1800
Q1052 2SC945A(T,P)
R1051 4700 1/10V
D1054 HZ30-3TD(30V) (+12V REGULATOR)

U6301 PNA4617M00HC INFRARED RECEIVER UNIT
IR RECEIVER
OUT GND VCC
B,C,G,H
C6301 47/6.3V Z
U6301 GP1U292Q INFRARED RECEIVER UNIT
IR RECEIVER
OUT VCC GND
A,D,E,F,I
C6301 47/6.3V Z

R6310 470
R6311 470
R6312 470
R6313 470
D6302 LN316CPHLMU
REPEAT A,B,C,D,E
TIMER F,G,H,I
D6303 LN21RCPHLMV REC A,B,C,D,E
D6304 LN316CPHLMU TIMER LN21RCPHLMV REC A,B,C,D,E F,G,H,I
D6305 LN41YCPHLM ON-TIMER LN316CPHLMU REPEAT A,B,C,D,E F,G,H,I
D6306 LN41YCPHLM ON-TIMER F,G,H,I
J6315 A,B,C,D,E
J6326 F,G,H,I
J6325
J6316 A,B,C,D,E
J6324 F,G,H,I
J6314 A,B,C,D,E

TO TV MAIN P1201
PK3-1 GND 1
PK3-2 GND 2
PK3-3 GND 3
PK3-4 +17V 4
PK3-5 +17V 5
PK3-6 GND 6
PK3-7 GND 7

TO MAIN II
5 +17V
7 DELAY REC +12V
8 SW +12V

TO MAIN III
6 SW +12V
9 TV POWER ON (H)

Q6003 (SWITCHING REC-ON)
R6005 10K
Q6002
Z R6004 3300 (SWITCHING DELAY REC ON-ON)

R6001 560
R6116 560
SENSOR LED
D6001 VEKS5521
TP6016
C6002 1000P
Q6001 (SENSOR LED DRIVE) Z

TO MAIN II
10 V-LOCK PULSE
11 UNSW +14V

R6120 220
R6121 220
IC6004 24LC01B/P (MEMORY)
VDD WRITE PROTECT SERIAL CLOCK SERIAL DATA GND
C6006 0.1
C6036 0.1
WF34 TP6205
C6229 100P Z
C6012 0.1
C6007 100P
C6011 100P
C6010 100P Z
C6009 100P
C6008 100P

C6201 47/6.3V
R6206 33K
C6204 0.01
R6214 390K
D6204
C6202 33/6.3V
R6207 22K
C6205 1000P
R6215 150K
C6206 0.01
R6218 180K
R6219 270K
R6222 150K
R6220 1K
R6221 220
TP6201
TP6202
TP6208
R6208 82K
C6203 0.01
R6209 220K
Z R6031 2700

R6029 100
R6028 1K
R6027 100
R6026 100
WF43
R6024 10K
R6023 10K
R6022 1K
R6021 1K D,E,F,I
R6020 1K
R6018 4.7K
R6017 1K Z
R6016 1K D,E,F,I
R6015 10K F,I
R6105 10K Z
R6105 10K Z D,E,I
R6075 220K
R6076 15K
R6077 15K

PWM1(CYL PC) PWM2(CAP SC) PWM3(CAP PC) V-LOCKPLS HSW SXI RST M-DATA SBDO SBCK SBTO SBIO SCK DATA_OUT DATA_IN NA TUNER_L PLAY_H LCD-F_H LCD-R_H ISD_CS_L ISD_P/S_L PLAY_L MUTE_H LL_CE_H MODE_L STEREO_L ENVD
P64 P65

SW6307 EVQ21405R B,C,G,H EVQPB005K A,D,E,F,I A-E J6311
PLAY/REPEAT A-E FF/CUE F-I
SW6308 EVQ21405R B,C,G,H EVQPB005K A,D,E J6317 B,C F-I J6321
FF/CUE SW6309 EVQ21405R GAME
R6305 4700
R6306 15K

SW6301 EVQ21405R CH DOWN
SW6302 EVQ21405R VOLUME DOWN A-E
SW6303 EVQPAD09K POWER
SW6315 EVQPB005K POWER F-I
R6301 4700
R6302 15K

SW6304 EVQ21405R CH UP
SW6305 EVQ21405R VOLUME UP
SW6306 FM/TV EVQ21405R D,E,F,I
R6303 4700
R6304 15K

J6003 A,B,C,F,G,H

(SWITCHING POWER ON-ON)
Q6004
R6006 390
Q6005 2SC945A(T,P)
R6002 10K
R6003 10K
D6002
R6010 56
C6001 470/6.3V
Q6006 DTA143ES (IC6001 RESET)
C6005 100/6.3V
R6008 1800
R6007 4.7M
Q6007 2SC945A(T,P) (IC6001 RESET)
R6009 1K

R6014 56K
R6013 56K
R6012 4700
R6011 4700
Z R6019 3300

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

IC6001 KEY MATRIX

TERMINAL VOLTAGE	0~0.9V	1.0~2.5V	2.6~4.1V
KEY DATA 0 (PIN 88)	CH DOWN	VOLUME DOWN	POWER
KEY DATA 1 (PIN 87)	CH UP	VOLUME UP	FM/TV
KEY DATA 2 (PIN 86)	PLAY	FF/CUE	GAME
KEY DATA 3 (PIN 85)	STOP /EJECT	REC /TIME	REW /REVIEW

※1 IC6001 replacement note:

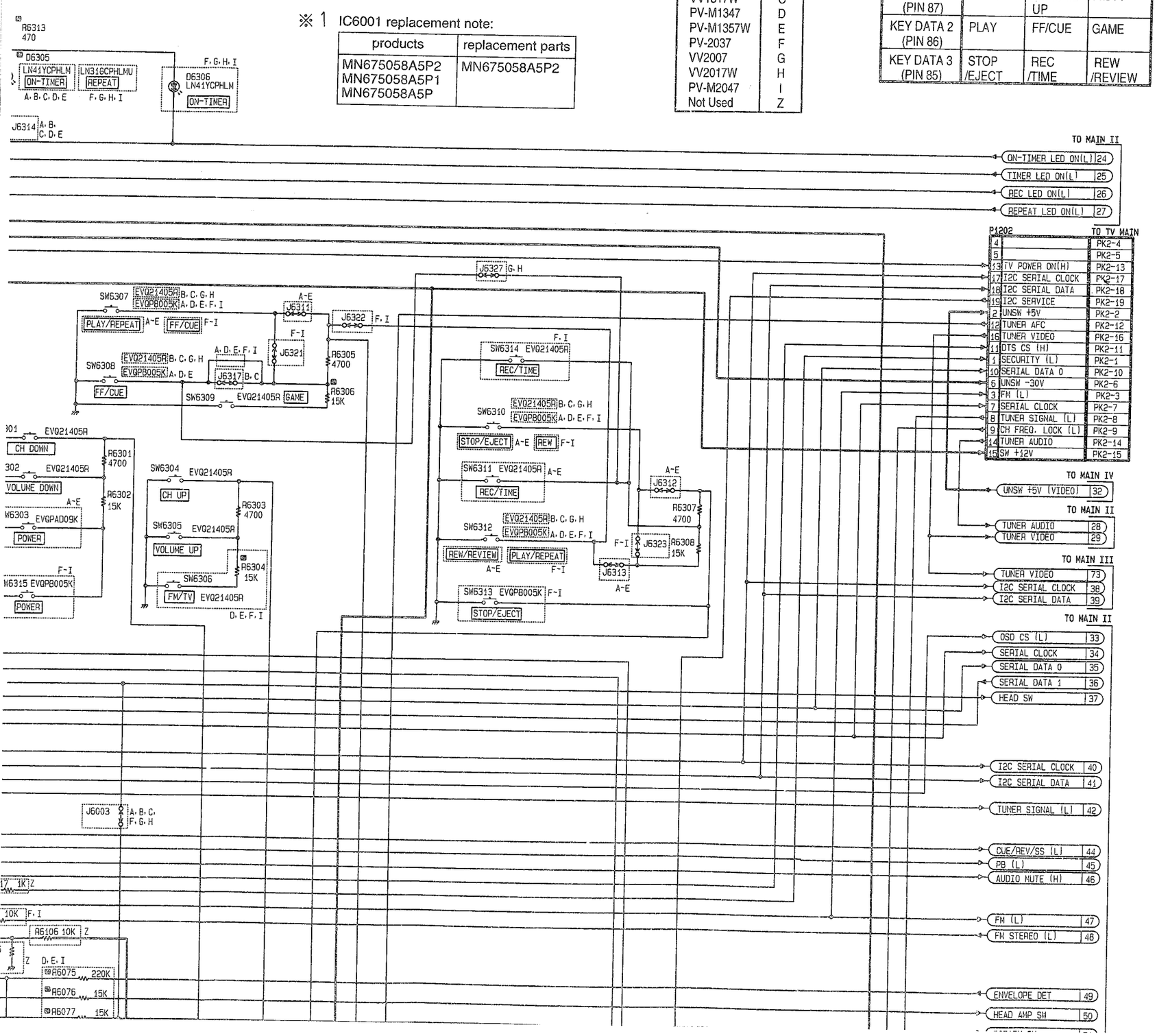
products	replacement parts
MN675058A5P2 MN675058A5P1 MN675058A5P	MN675058A5P2

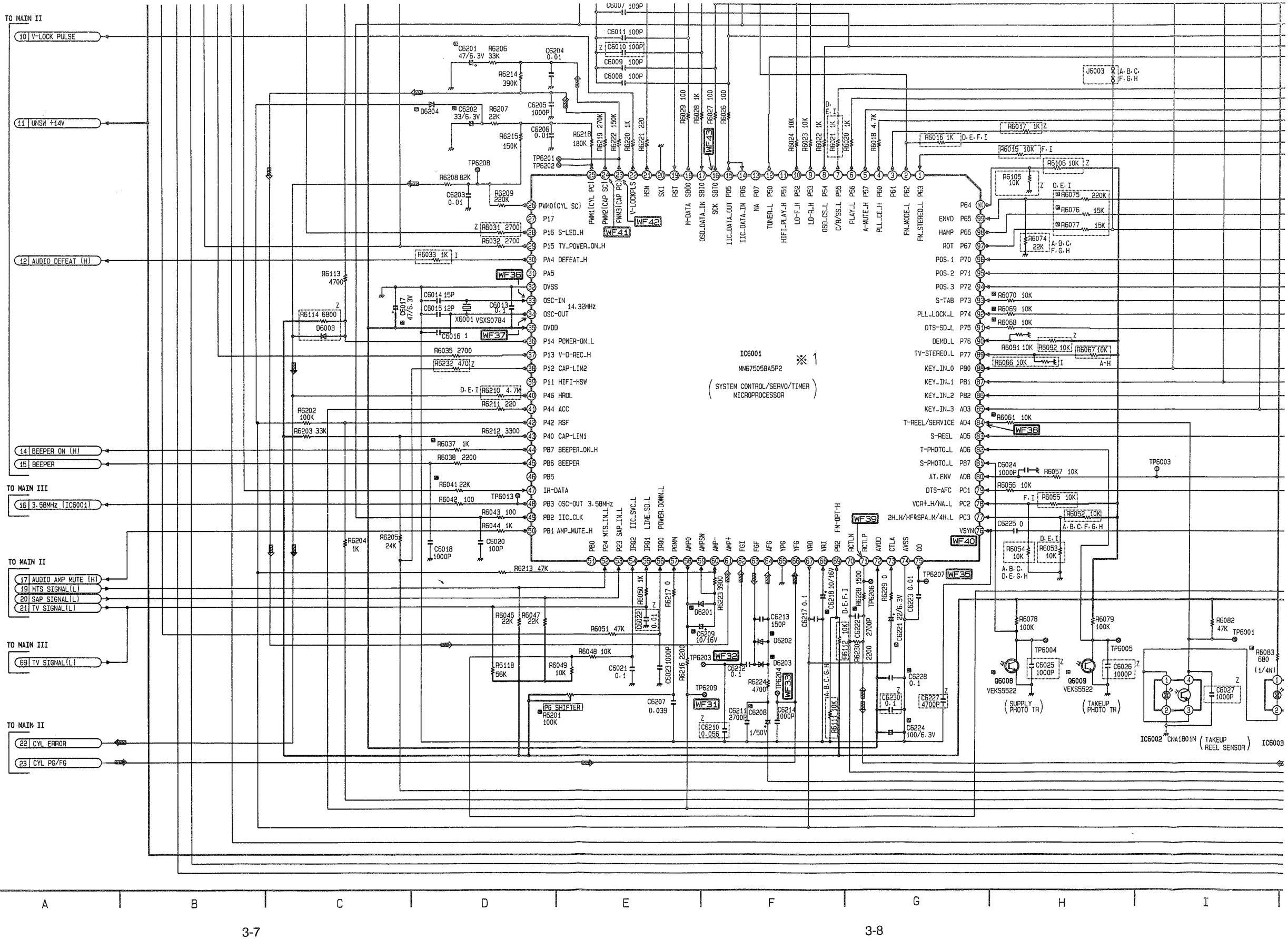
I/O CHART FOR IC6001(MN675058A5P2)

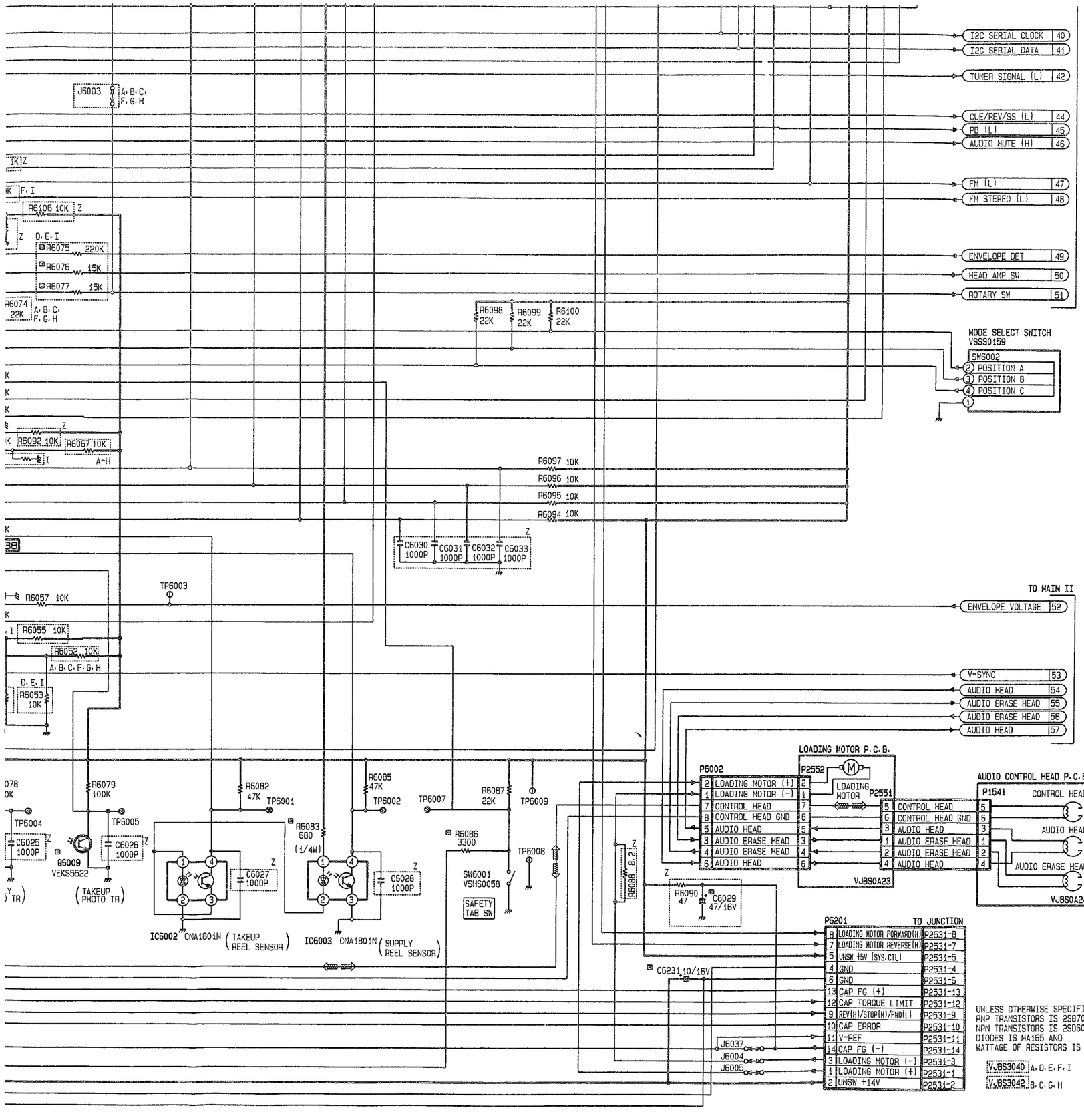
PIN NO.	I/O	FUNCTION
1	I	FM STEREO SIGNAL (L)
2	O	FM MODE (L)
3	---	(Not used)
4	O	DTS-CS (H)
5	O	AUDIO MUTE (H)
6	O	PB (L)
7	O	CUE/REV/SS (L)
8	O	OSD-CS (L)
9	O	LOADING MOTOR REVERSE (H)
10	O	LOADING MOTOR FORWARD (H)
11	I	PB Hi-Fi AUDIO (H)
12	O	TUNER SIGNAL (L)
13	---	(Not used)
14	I	I²C SERIAL DATA
15	O	I²C SERIAL DATA
16	O	SERIAL CLOCK
17	I	SERIAL DATA 1
18	O	SERIAL DATA O
19	I	RESET
20	---	GND
21	O	HEAD SW
22	O	V-LOCK PULSE
23	O	CAP PHASE ERROR
24	O	CAP SPEED ERROR
25	O	CAP PHASE ERROR
26	O	CAP SPEED ERROR
27	O	(Not used)
28	O	SENSOR LED ON (H)
29	O	TV POWER ON (H)
30	O	AUDIO DEFEAT (H)
31	O	(Not used)
32	---	GND
33	I	OSC 1
34	O	OSC 2
35	---	VDD
36	O	+12V POWER ON (H)
37	O	VIDEO DELAY REC (H)
38	O	CAP TORQUE LIMIT 2
39	O	Hi-Fi HEAD SW
40	O	H ROLL ACCELERATION
41	O	FORCED ACCELERATION
42	O	CAP REV(H)/STOP(M)/FWD(L)
43	O	CAP TORQUE LIMIT 1
44	O	BEEPER ON (H)
45	O	BEEPER
46	O	(Not used)
47	I	IR DATA
48	O	3.58MHz
49	O	I²C SERIAL CLOCK
50	O	AUDIO AMP MUTE (H)
51	O	SPATIALIZER CONTROL (H/L/OFF)
52	I	MTS SIGNAL (L)
53	I	SAP SIGNAL (L)
54	I	I²C SERVICE (L)
55	I	TV SIGNAL (L)
56	I	POWER DOWN (L)
57	I	PG SHIFTER
58	O	AMP
59	I	AMP SW
60	I	AMP -
61	I	AMP +
62	I	CAP FG
63	O	CAP FG
64	I	CAP FG
65	---	GND
66	I	CYL PG/FG
67	O	V-REF 1
68	I	V-REF 2
69	I	FM (L)
70	O	CONTROL PULSE (-)
71	O	CONTROL PULSE (+)
72	---	VDD
73	I	CTL AMP
74	---	GND
75	O	PB CTL PULSE
76	I	V-SYNC
77	I	2 HEAD (H)/Hi-Fi (M)/4 HEAD (L)
78	I	VCR PLUS (H)/GUIDE PLUS AND STARSITE (M)/NORMAL (L)
79	I	AFC
80	I	ENVELOPE VOLTAGE
81	I	SUPPLY PHOTO TR (L)
82	I	TAKEUP PHOTO TR (L)
83	I	SUPPLY REEL PULSE
84	I	TAKEUP REEL PULSE/SERVICE (L)
85	I	KEY DATA 3
86	I	KEY DATA 2
87	I	KEY DATA 1
88	I	KEY DATA O
89	I	TV STEREO (L)
90	I	DEMO (L)
91	I	TUNER SIGNAL (L)
92	I	CH FREQUENCY LOCK (L)
93	I	SAFETY TAB BROKEN (H)
94	I	MODE SW POSITION C
95	I	MODE SW POSITION B
96	I	MODE SW POSITION A
97	O	ROTARY SW
98	O	HEAD AMP SW
99	I	ENVELOPE DET
100	---	(Not used)

MAIN I VOLTAGE CHART

MODE / PIN NO.	STOP	REC	PLAY	FF	REW
IC6001					
1	5.1	5.1	5.1	5.1	5.1
2	5.1	5.1	5.1	5.1	5.1
3	---	---	---	---	---
4	0.3	0.3	0.3	0.3	0.3
5	0.2	0.2	0.2	0.2	0.2
6	5.1	5.1	0.1	5.1	5.1
7	5.1	5.1	5.1	5.1	5.1
8	4.1	4.1	4.1	4.1	4.1
9	0	0	0	0	0
10	0	0	0	0	0
11	5.1	5.1	5.1	5.1	5.1
12	5.1	5.1	5.1	5.1	5.1
13	---	---	---	---	---
14	3.9	3.9	3.9	3.9	3.9
15	3.9	3.9	3.9	3.9	3.9
16	4.5	4.5	4.5	4.5	4.5
17	5.1	5.1	5.1	5.1	5.1
18	4.7	4.7	4.7	4.7	4.7
19	5.1	5.1	5.1	5.1	5.1
20	0	0	0	0	0
21	2.6	2.6	2.6	2.6	2.6
22	0.1	0.1	0.1	0.1	0.1
23	2.7	2.7	2.7	2.7	2.7
24	0	2.6	2.6	2.6	2.6
25	1.9	2.3	2.3	2.6	2.6
26	2.6	2.6	2.6	2.6	2.6
27	---	---	---	---	---
28	---	---	---	---	---
29	0	0	0	0	0
30	5.1	5.1	5.1	5.1	5.1
31	---	---	---	---	---
32	0	0	0	0	0
33	2.6	2.6	2.6	2.6	2.6
34	2.6	2.6	2.6	2.6	2.6
95	0.1	5.2	5.2	5.2	5.2
96	5.1	0.1	0.1	0.1	0.1
97	2.6	2.6	2.6	2.6	2.6
98	0.1	0.1	0.1	0.1	0.1
99	0.2	0.2	0.2	0.2	0.2
100	---	---	---	---	---
IC6002					
1	1.3	1.3	1.3	1.3	1.3
2	0	0	0	0	0
3	1.3	1.3	1.3	1.3	1.3
4	---	---	---	---	---
IC6003					
1	0	0	0	0	0
2	1.3	1.3	1.3	1.3	1.3
3	0	0	0	0	0
4	---	---	---	---	---
IC6004					
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	4.9	4.9	4.9	4.9	4.9
6	5.0	5.0	5.0	5.0	5.0
7	0	0	0	0	0
8	5.1	5.1	5.1	5.1	5.1
Q1051					
E	12.1	12.1	12.1	12.1	12.1
C	13.5	13.5	13.5	13.5	13.5
B	12.6	11.6	12.6	12.6	12.6
Q1052					
E	0	0	0	0	0
C	12.6	11.6	12.6	12.6	12.6
B	0.7	0.7	0.7	0.7	0.7
Q6002					



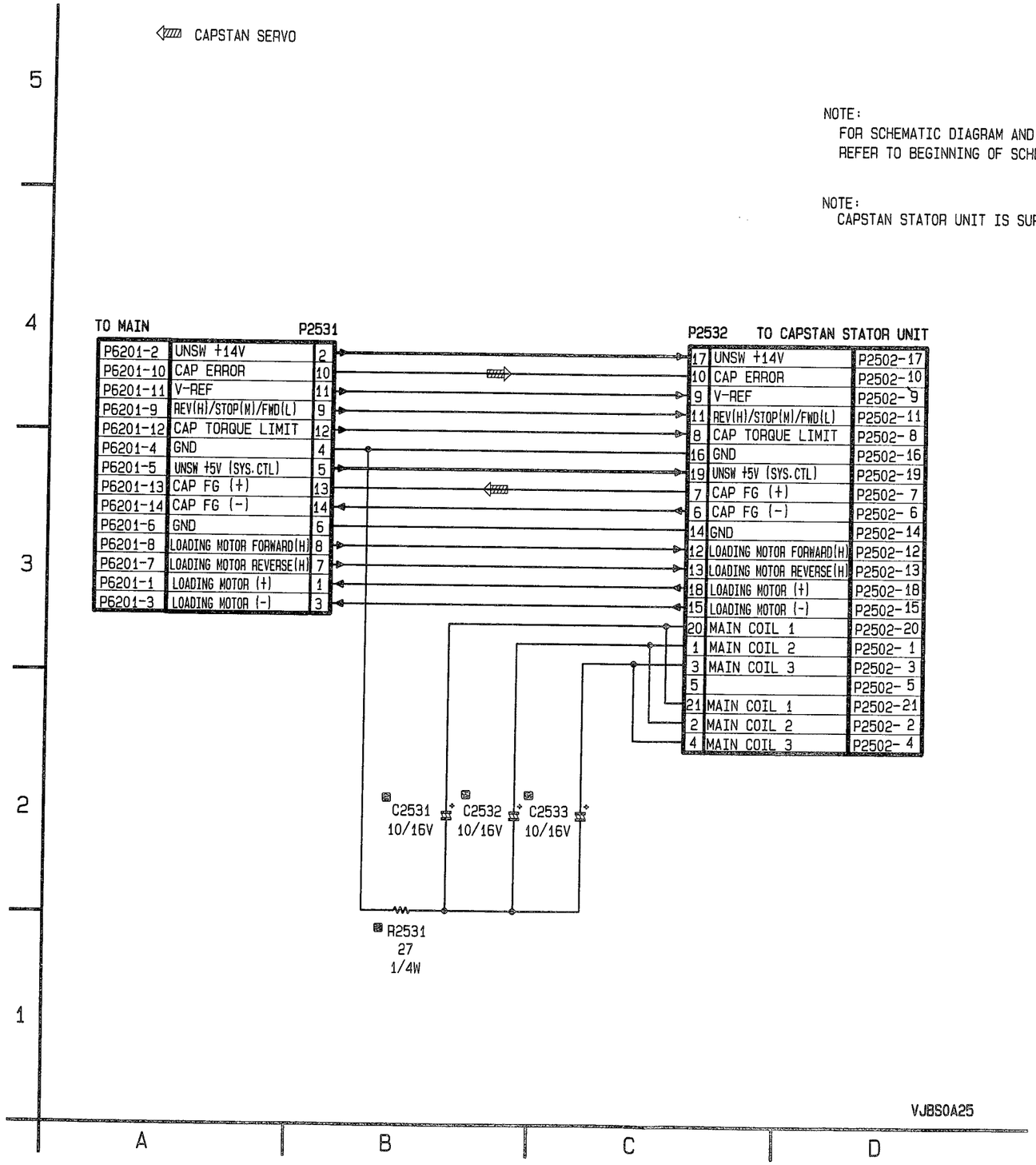

TO MAIN II
10 V-LOCK PULSE
11 UNSW +14V
12 AUDIO DEFEAT (H)
14 BEEPER ON (H)
15 BEEPER
TO MAIN III
16 3.58MHz (IC6001)
TO MAIN II
17 AUDIO AMP MUTE (H)
19 MTS SIGNAL(L)
20 SAP SIGNAL(L)
21 TV SIGNAL(L)
TO MAIN III
69 TV SIGNAL(L)
TO MAIN II
22 CYL ERROR
23 CYL PG/FG
IC6001
MN675058A5P2
※1
SYSTEM CONTROL/SERVO/TIMER MICROPROCESSOR
Q6008 VEKS5522
SUPPLY PHOTO TR
Q6009 VEKS5522
TAKEUP PHOTO TR
IC6002 CNA1801N
TAKEUP REEL SENSOR
IC6003
J6003
TP6003



12	5.1	5.1	5.1	5.1	5.1
13	---	---	---	---	---
14	3.9	3.9	3.9	3.9	3.9
15	3.9	3.9	3.9	3.9	3.9
16	4.5	4.5	4.5	4.5	4.5
17	5.1	5.1	5.1	5.1	5.1
18	4.7	4.7	4.7	4.7	4.7
19	5.1	5.1	5.1	5.1	5.1
20	0	0	0	0	0
21	2.6	2.6	2.6	2.6	2.6
22	0.1	0.1	0.1	0.1	0.1
23	2.7	2.7	2.7	2.7	2.7
24	0	2.6	2.6	2.6	2.6
25	1.9	2.3	2.3	2.6	2.6
26	2.6	2.6	2.6	2.6	2.6
27	---	---	---	---	---
28	---	---	---	---	---
29	0	0	0	0	0
30	5.1	5.1	5.1	5.1	5.1
31	---	---	---	---	---
32	0	0	0	0	0
33	2.6	2.6	2.6	2.6	2.6
34	2.6	2.6	2.6	2.6	2.6
35	5.1	5.1	5.1	5.1	5.1
36	0	0	0	0	0
37	0	5.1	0	0	0
38	---	---	---	---	---
39	---	---	---	---	---
40	2.2	2.2	2.2	2.2	2.2
41	1.1	2.4	2.4	2.4	2.4
42	2.6	0.1	0.1	0.1	5.0
43	5.0	5.0	5.0	5.0	5.0
44	2.6	2.6	2.6	2.6	2.6
45	2.6	2.6	2.6	2.6	2.6
46	---	---	---	---	---
47	5.0	5.0	5.0	5.0	5.0
48	2.6	2.6	2.6	2.6	2.6
49	4.1	4.1	4.1	4.1	4.1
50	0	0	0	0	0
51	---	---	---	---	---
52	5.1	5.1	5.1	5.1	5.1
53	5.1	5.1	5.1	5.1	5.1
54	5.1	5.1	5.1	5.1	5.1
55	0.8	0.8	0.8	0.8	0.8
56	5.2	5.2	5.2	5.2	5.2
57	3.0	3.0	3.0	3.0	3.0
58	2.4	2.4	2.4	2.4	2.4
59	2.6	2.6	2.6	2.6	2.6
60	2.6	2.6	2.6	2.6	2.6
61	2.6	2.6	2.6	2.6	2.6
62	2.6	2.6	2.6	2.6	2.6
63	2.6	2.6	2.6	2.6	2.6
64	2.6	2.6	2.6	2.6	2.6
65	0	0	0	0	0
66	1.2	1.2	1.2	1.2	1.2
67	2.6	2.6	2.6	2.6	2.6
68	2.6	2.6	2.6	2.6	2.6
69	5.1	5.1	5.1	5.1	5.1
70	2.6	2.6	2.6	2.6	2.6
71	2.6	2.6	2.6	2.6	2.6
72	5.1	5.1	5.1	5.1	5.1
73	2.6	2.6	2.6	2.6	2.6
74	0	0	0	0	0
75	2.6	2.6	2.6	2.6	2.6
76	0.5	0.5	0.5	0.5	0.5
77	5.1	5.1	5.1	5.1	5.1
78	5.1	5.1	5.1	5.1	5.1
79	2.6	2.6	2.6	2.6	2.6
80	3.7	3.7	5.1	3.7	3.7
81	5.1	5.1	5.1	5.1	5.1
82	5.1	5.1	5.1	5.1	5.1
83	---	---	---	---	---
84	---	---	---	---	---
85	5.1	5.1	5.1	5.1	5.1
86	5.1	5.1	5.1	5.1	5.1
87	5.1	5.1	5.1	5.1	5.1
88	5.1	5.1	5.1	5.1	5.1
89	0	0	0	0	0
90	0	0	0	0	0
91	5.1	5.1	5.1	5.1	5.1
92	0.1	0.1	0.1	0.1	0.1
93	0	0	0	0	0
94	5.2	5.2	5.2	5.2	5.2

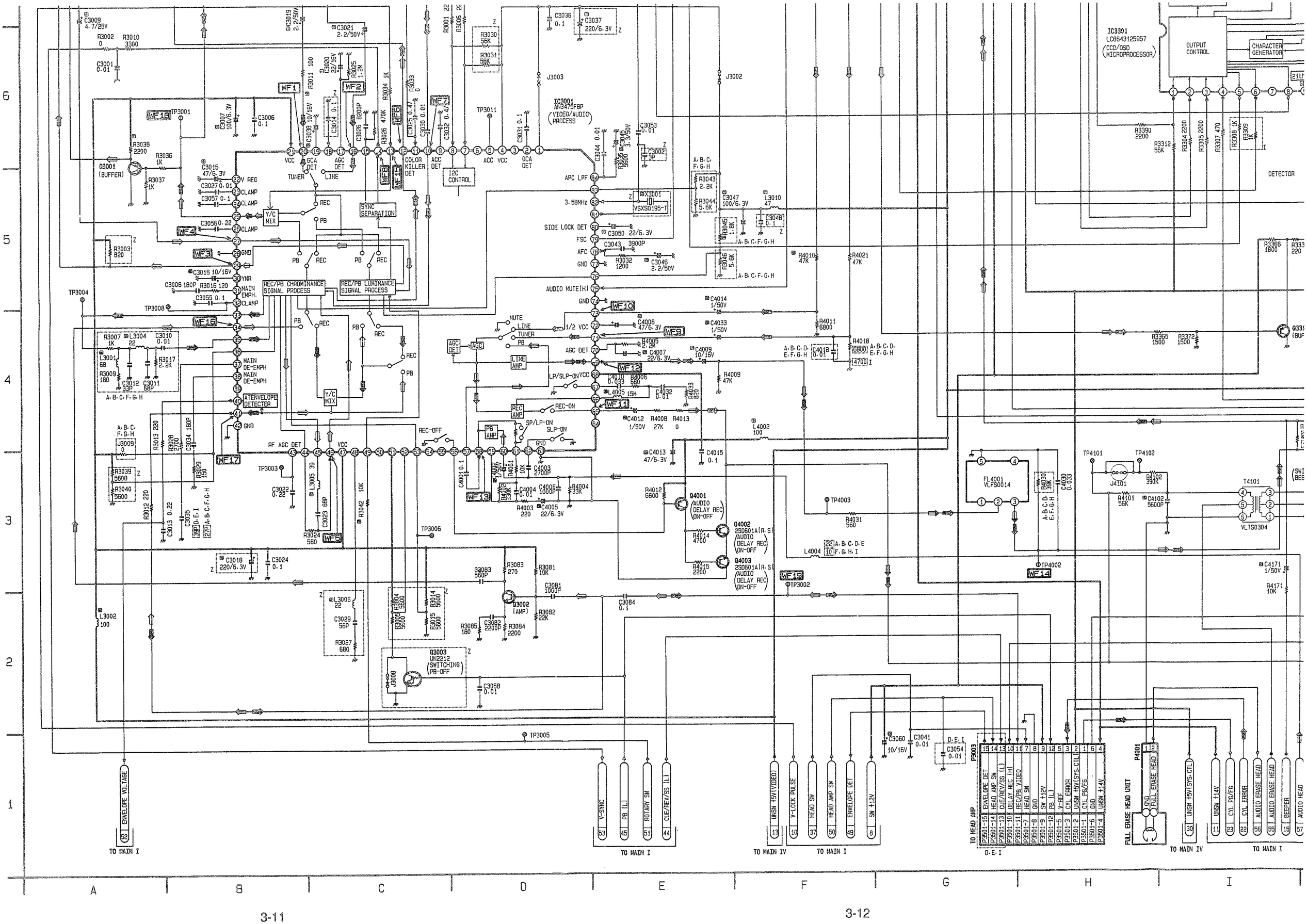
1	0	0	0	0	0
2	1.3	1.3	1.3	1.3	1.3
3	0	0	0	0	0
4	---	---	---	---	---
IC6004					
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	4.9	4.9	4.9	4.9	4.9
6	5.0	5.0	5.0	5.0	5.0
7	0	0	0	0	0
8	5.1	5.1	5.1	5.1	5.1
Q1051					
E	12.1	12.1	12.1	12.1	12.1
C	13.5	13.5	13.5	13.5	13.5
B	12.6	11.6	12.6	12.6	12.6
Q1052					
E	0	0	0	0	0
C	12.6	11.6	12.6	12.6	12.6
B	0.7	0.7	0.7	0.7	0.7
Q6002					
E	12.1	12.1	12.1	12.1	12.1
C	0.5	12.1	0.5	0.5	0.5
B	12.1	11.2	12.1	12.1	12.1
Q6003					
E	0.4	1.1	0.4	0.4	0.4
C	12.1	11.2	12.1	12.1	12.1
B	0	5.0	0	0	0
Q6004					
E	5.1	5.1	5.1	5.1	5.1
C	5.1	5.1	5.1	5.1	5.1
B	4.4	4.4	4.4	4.4	4.4
Q6005					
E	0	0	0	0	0
C	0	0	0	0	0
B	0.8	0.8	0.8	0.8	0.8
Q6006					
E	5.1	5.1	5.1	5.1	5.1
C	5.1	5.1	5.1	5.1	5.1
B	0	0	0	0	0
Q6007					
E	0	0	0	0	0
C	5.0	5.0	5.0	5.0	5.0
B	0	0	0	0	0
Q6008					
E	0	0	0	0	0
C	5.1	5.1	5.1	5.1	5.1
B	---	---	---	---	---
Q6009					
E	0	0	0	0	0
C	5.1	5.1	5.1	5.1	5.1
B	---	---	---	---	---
TP1051	0	0	0	0	0
TP1052	36.5	36.5	36.5	36.5	36.5
TP1053	13.5	13.5	13.5	13.5	13.5
TP1055	5.1	5.1	5.1	5.1	5.1
TP1058	0	0	0	0	0
TP6001	---	---	---	---	---
TP6002	---	---	---	---	---
TP6003	3.4	3.4	3.0	3.4	3.4
TP6004	4.9	4.9	4.9	4.9	4.9
TP6005	5.1	5.1	5.1	5.1	5.1
TP6007	0	0	0	0	0
TP6008	0	0	0	0	0
TP6009	5.1	5.1	5.1	5.1	5.1
TP6013	2.6	2.6	2.6	2.6	2.6
TP6016	0	0	0	0	0
TP6201	2.6	2.6	2.6	2.6	2.6
TP6202	1.9	2.2	2.2	2.6	2.6
TP6203	2.6	2.6	2.6	2.6	2.6
TP6204	1.2	1.2	1.2	1.2	1.2
TP6205	2.6	2.6	2.6	2.6	2.6
TP6206	0	3.0	0	0	0
TP6207	2.6	2.6	2.6	2.6	2.6
TP6208	2.5	2.5	2.5	2.5	2.5
TP6209	1.1	2.4	2.4	2.4	2.4

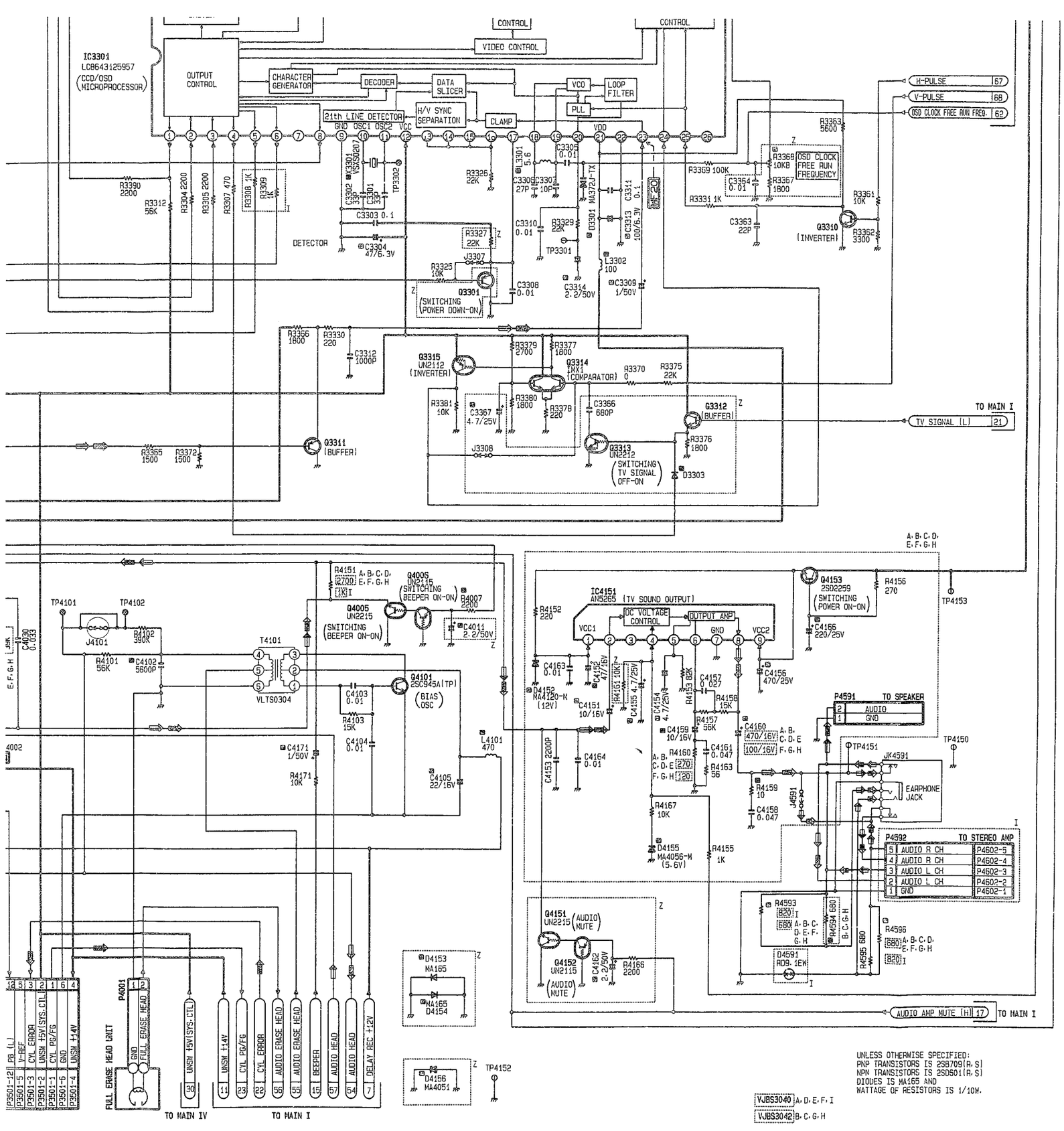
JUNCTION SCHEMATIC DIAGRAM



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CAPSTAN STATOR UNIT IS SUPPLIED AS A CAPSTAN STATOR KIT ONLY.


IC3301
LC86431259S7
(CCD/OSD MICROPROCESSOR)
OUTPUT CONTROL
CHARACTER GENERATOR
IC3001
AN3475FBP
(VIDEO/AUDIO PROCESS)
I2C CONTROL
REC/PB CHROMINANCE SIGNAL PROCESS
REC/PB LUMINANCE SIGNAL PROCESS
SYNC SEPARATION
Y/C MIX
ATENVELOPE DETECTER
APC LPF
3.58MHz
SIDE LOCK DET
FSC
AFC
GND
AUDIO MUTE(H)
VSXS0195-T
DETECTOR
Q3001 (BUFFER)
Q3002 (AMP)
Q3003 UN2212 (SWITCHING) (PB-OFF)
Q4001 (AUDIO DELAY REC ON-OFF)
Q4002 2SD601A(R,S) (AUDIO DELAY REC ON-OFF)
Q4003 2SD601A(R,S) (AUDIO DELAY REC ON-OFF)
FL4001 VLFS0014
VLTS0304
T4101
J4101
P3003
P4001
TO HEAD AMP
FULL ERASE HEAD UNIT
ENVELOPE VOLTAGE
V-SYNC
PB (L)
ROTARY SW
CUE/REV/SS (L)
UNSW +5V(VIDEO)
V-LOCK PULSE
HEAD SW
HEAD AMP SW
ENVELOPE DET
SW +12V
UNSW +5V(SYS.CTL)
CYL PG/FG
GND
UNSW +14V
CYL ERROR
AUDIO ERASE HEAD
BEEPER
AUDIO HEAD
TO MAIN I
TO MAIN IV
D.E.I



2	3.3	3.3
3	---	---
4	5.1	5.1
5	4.3	4.3
6	---	---
7	4.2	4.2
8	4.0	4.0
9	2.2	2.2
10	2.8	2.8
11	0.8	0.8
12	2.8	2.8
13	0.4	0.4
14	0.5	0.5
15	1.0	1.0
16	3.1	3.9
17	2.3	1.8
18	3.1	3.1
19	2.6	2.6
20	3.1	3.4
21	5.1	5.1
22	2.0	2.0
23	2.5	2.5
24	2.4	2.4
25	2.0	2.0
26	2.5	2.5
27	2.0	2.0
28	0	0
29	1.9	1.9
30	0	0
31	2.0	2.4
32	2.4	2.4
33	2.0	1.2
34	3.0	2.8
35	2.6	2.6
36	---	---
37	0	1.5
38	4.6	2.2
39	---	---
40	3.8	5.1
41	2.8	3.6
42	0	0
43	3.4	3.4
44	2.6	2.6
45	2.6	2.6
46	2.6	2.6
47	5.1	5.1
48	1.2	1.0
49	2.6	2.6
50	---	---
51	5.1	5.1
52	---	---
53	---	---
54	---	---
55	---	---
56	5.1	0
57	0.8	2.6
58	2.6	2.6
59	2.6	2.6
60	2.6	2.6
61	2.6	2.6
62	0	0
63	0	0
64	---	---
65	2.6	2.6
66	2.6	2.6
67	2.6	2.6
68	5.1	5.1
69	2.7	2.7
70	0	0
71	2.6	2.6
72	2.6	2.6
73	2.6	2.6
74	0	0
75	0	0
76	3.9	3.9
77	0	0
78	2.1	2.1
79	3.0	3.0
80	2.1	2.1
81	---	---
82	2.8	2.8
83	3.7	3.7
84	2.5	2.5

2	5.1	5.1
3	0	0
4	3.2	3.2
5	2.9	3.4
6	-2.7	-2.7
7	2.1	2.1
8	3.0	3.0
IC3301		
1	4.2	4.2
2	4.7	4.7
3	5.0	5.0
4	0	0
5	5.1	5.1
6	0	0
7	---	---
8	5.1	5.1
9	0	0
10	2.6	2.6
11	2.4	2.4
12	5.1	5.1
13	0.6	0.6
14	0.6	0.6
15	0.6	0.6
16	0.6	0.6
17	5.1	5.1
18	2.4	2.4
19	2.4	2.4
20	2.6	2.6
21	5.1	5.1
22	0	0
23	2.8	2.8
24	5.0	5.0
25	4.1	4.1
26	---	---
27	0	0
28	0	0
29	0	0
30	---	---
31	---	---
32	---	---
33	---	---
34	---	---
35	---	---
36	2.0	2.0
37	---	---
38	---	---
39	---	---
40	---	---
41	3.9	3.9
42	4.6	4.6
43	4.6	4.6
44	4.6	4.6
45	---	---
46	0	0
47	---	---
48	---	---
49	5.1	5.1
50	5.1	5.1
51	5.1	5.1
52	0.2	5.1
IC4151		
1	11.4	11.4
2	4.7	4.7
3	---	---
4	2.7	2.7
5	6.0	6.0
6	6.2	6.2
7	0	0
8	6.3	6.3
9	16.6	16.6
Q3001		
E	1.6	1.6
C	0	0
B	1.0	1.0
Q3002		
E	2.7	2.7
C	4.6	4.6
B	3.3	3.3
Q3310		
E	0	0
C	4.2	4.2
B	0	0

C	0	0
B	1.0	1.0
Q3314		
E1	1.5	1.5
E2	1.5	1.5
C1	5.1	5.1
C2	1.7	1.7
B1	2.1	2.1
B2	1.9	1.9
Q3315		
E	1.7	1.7
C	5.0	5.0
B	5.1	5.1
Q4001		
E	5.1	5.1
C	-20.2	5.1
B	5.1	4.3
Q4002		
E	-21.0	0
C	0	0
B	-14.1	0
Q4003		
E	-20.1	0
C	0	0
B	-13.8	0.8
Q4004		
E	0	0
C	0.2	0.2
B	0	0
Q4005		
E	-4.3	-4.3
C	0	0
B	0	0
Q4006		
E	0	0
C	-4.3	-4.3
B	0	0
Q4101		
E	0	0
C	11.3	0.2
B	0.2	0.2
Q4153		
E	17.1	17.1
C	17.3	17.3
B	16.8	16.8
Q4154		
E	0	0
C	2.4	2.4
B	0	0
TP3001	2.0	2.0
TP3002	2.7	2.3
TP3003	3.4	3.4
TP3004	2.4	2.4
TP3005	2.6	2.6
TP3006	2.7	2.7
TP3007	3.2	3.2
TP3008	2.4	2.4
TP3009	0	0
TP3010	3.0	3.0
TP3011	4.3	4.3
TP3012	2.9	3.4
TP3301	2.4	2.4
TP3302	5.1	5.1
TP4001	0	0
TP4002	0	0
TP4003	0	0
TP4101	0	0
TP4102	0	0
TP4150	0	0
TP4151	6.3	6.3
TP4152	0	0
TP4153	17.3	17.3

MAIN III (TV Y/C PROCESS) SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED E
SPECIAL CHARACTERISTICS
WHEN REPLACING ANY OF T
USE ONLY THE SPECIFIED

REC VIDEO SIGNAL
PB VIDEO SIGNAL

TO MAIN II
61
3.58MHz(IC3001)
C5606 0.01
Q5501 (BUFFER)
R5611 8200
R5610 1K
R5612 8200
D5601
R5613 4.7K

TO MAIN I
16
3.58MHz(IC6001)
R5601 5600
C5607 0.01

TO MAIN II
66 OSD RED
65 OSD GREEN
64 OSD BLUE
63 BLANKING PULSE

TP5306

Q5302 (BUFFER)
R5302 22K
D5304
R5303 4.7K
R5308 39K
R5304 39K
R5309 180K

(SWITCHING TV POWER ON-ON)
Q5951
R5951 47K
R5953 10K
R5952 10K
Q5952
R5954 22K
R5955 47K
TO TV POWER ON(H) 9

C5601 0.01
C5302 4.7/25V
R5305 220K
C5305 0.47/50V
C5602 0.1
R5604 1500
C5604 1/50V
C5605 0.015
R5314 100
R5315 100
R5316 100
C5603 15P
X5601 VSXS0208-B
R5318 2.7K

IC5301 AN5367FB
(LUMINANCE/CHROMINANCE PROCESS)
36 35 34 33 32 31 30 29 28 27 26 25
BLACK LEVEL DETECTOR
VCO

TO MAIN I
6 SW+ 12V
TO MAIN IV
72 UNSW +14V
R5901 27
R5902 1K
C5902 47/16V

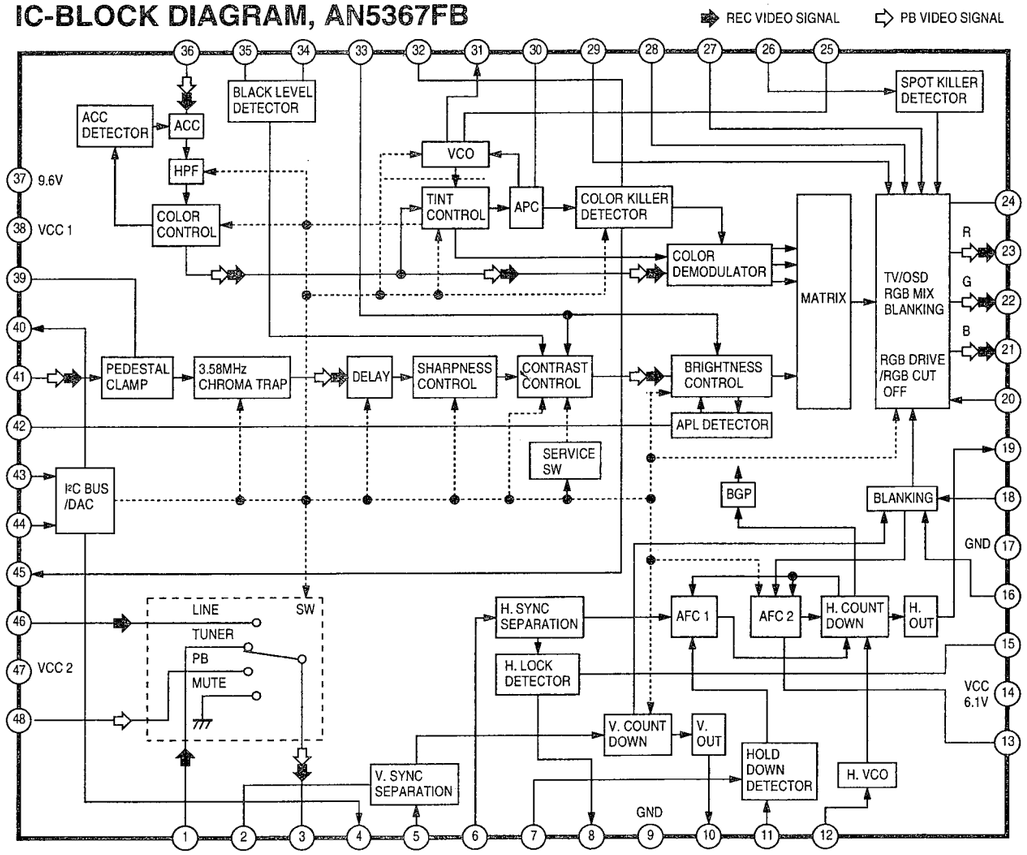
D5301 D5302 D5303

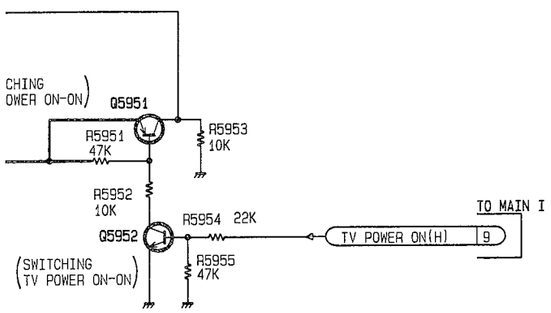
(SWITCHING TV POWER ON-ON)
D5951
R5956 4700
Q5953
C5951 220/16V
R5957 47K
D5952 MA4051-M
D5953 D5954 D5955
TP5301 TP5302 TP5303

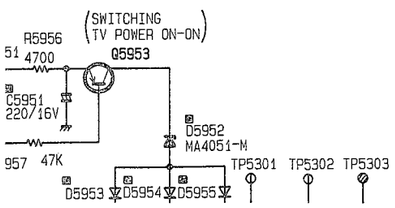
)UT NOTES.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

IC5301 LUMINANCE/CHROMINANCE PROCESS
IC-BLOCK DIAGRAM, AN5367FB







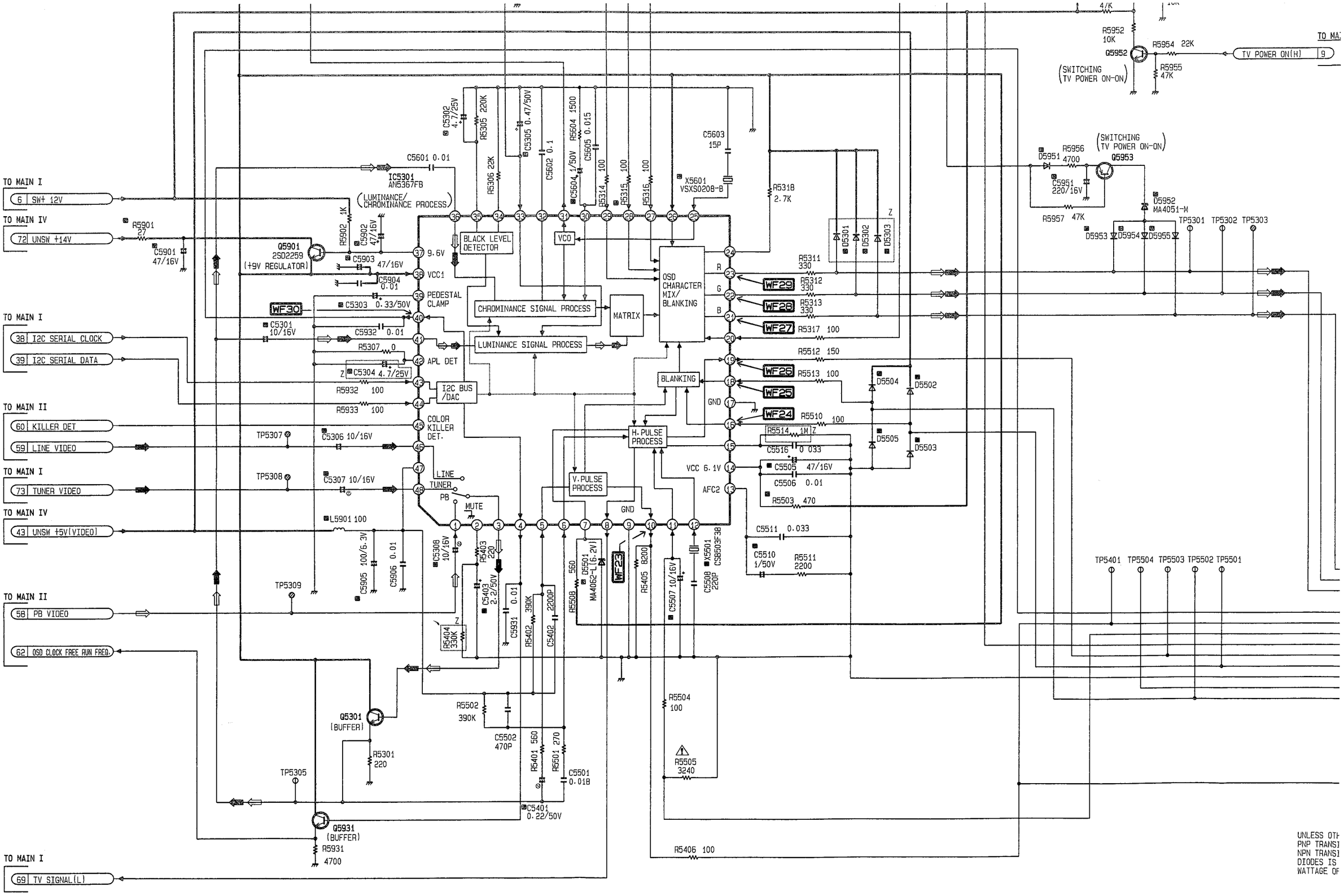
MAIN III VOLTAGE CHART

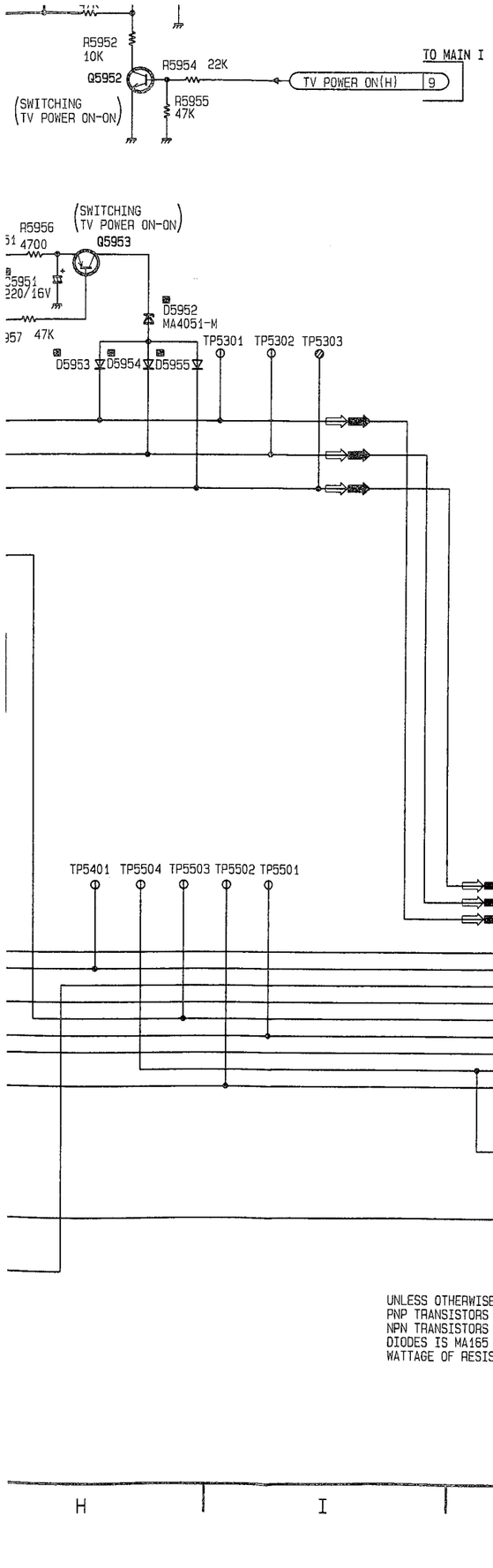
MODE / PIN NO.	REC	PLAY
IC5301		
1	2.7	2.7
2	2.5	2.5
3	3.4	3.4
4	3.1	3.1
5	2.1	2.1
6	2.1	2.1
7	6.2	6.2

MODE / PIN NO.	REC	PLAY
Q5301		
E	2.7	2.7
C	9.2	9.2
B	3.4	3.4
Q5302		
E	6.3	6.3
C	9.2	9.2
B	6.9	6.9

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G


IC5301
AN5367FB
(LUMINANCE/
CHROMINANCE PROCESS)
X5601
VSXS0208-B
C5603
15P
C5601 0.01
C5302
4.7/25V
R5305
220K
C5305 0.47/50V
C5602 0.1
C5604 1/50V
R5604
1500
C5605 0.015
R5314
100
R5315
100
R5316
100
R5318
2.7K
R5902
1K
C5902
47/16V
R5901
27
C5901
47/16V
Q5901
2SD2259
(+9V REGULATOR)
C5903
47/16V
C5904
0.01
9.6V
VCC1
PEDESTAL
CLAMP
BLACK LEVEL
DETECTOR
VCO
C5303 0.33/50V
C5932
0.01
C5301
10/16V
R5307
0
APL DET
C5304 4.7/25V
R5932
100
R5933
100
I2C BUS
/DAC
COLOR
KILLER
DET.
C5306 10/16V
LINE
TUNER
PB
MUTE
C5307 10/16V
L5901 100
C5905
100/6.3V
C5906
0.01
C5308
10/16V
R5403
220
C5403
2.2/50V
C5931
0.01
R5402
390K
C5402
2200P
R5404
330K
R5502
390K
C5502
470P
R5401
560
R5501
270
C5501
0.01B
C5401
0.22/50V
Q5301
(BUFFER)
R5301
220
Q5931
(BUFFER)
R5931
4700
CHROMINANCE SIGNAL PROCESS
LUMINANCE SIGNAL PROCESS
MATRIX
OSD
CHARACTER
MIX/
BLANKING
BLANKING
H. PULSE
PROCESS
V. PULSE
PROCESS
R
G
B
GND
VCC 6.1V
AFC2
R5311
330
R5312
330
R5313
330
R5317
100
R5512
150
R5513
100
R5510
100
R5514
1M
C5516
0.033
C5505
47/16V
C5506
0.01
R5503
470
C5511
0.033
C5510
1/50V
R5511
2200
R5504
100
R5505
3240
R5406
100
R5508
560
D5501
MA4062-L(6.2V)
R5405
6200
C5507
10/16V
C5508
220P
X5501
CSB503F38
WF23
WF24
WF25
WF26
WF27
WF28
WF29
WF30
D5301
D5302
D5303
D5504
D5502
D5505
D5503
Z
TO MAIN I
6 SW+ 12V
TO MAIN IV
72 UNSW +14V
TO MAIN I
38 I2C SERIAL CLOCK
39 I2C SERIAL DATA
TO MAIN II
60 KILLER DET
59 LINE VIDEO
TO MAIN I
73 TUNER VIDEO
TO MAIN IV
43 UNSW +5V(VIDEO)
TO MAIN II
58 PB VIDEO
62 OSD CLOCK FREE RUN FREQ.
TO MAIN I
69 TV SIGNAL(L)
TP5307
TP5308
TP5309
TP5305
R5952
10K
Q5952
R5954 22K
R5955
47K
(SWITCHING
TV POWER ON-ON)
TV POWER ON(H) 9
TO MA
R5956
4700
D5951
C5951
220/16V
Q5953
R5957 47K
D5952
MA4051-M
D5953
D5954
D5955
TP5301
TP5302
TP5303
TP5401
TP5504
TP5503
TP5502
TP5501
UNLESS OTH
PNP TRANSI
NPN TRANSI
DIODES IS
WATTAGE OF



UNLESS OTHERWISE SPECIFIED:
PNP TRANSISTORS IS 2SB709(A,S),
NPN TRANSISTORS IS 2SD601(A,S),
DIODES IS MA165 AND
WATTAGE OF RESISTORS IS 1/10W.

VJBS3040 A, D, E, F, I

VJBS3042 B, C, G, H

H I J K

MAIN III VOLTAGE CHART

MODE / PIN NO.	REC	PLAY
IC5301		
1	2.7	2.7
2	2.5	2.5
3	3.4	3.4
4	3.1	3.1
5	2.1	2.1
6	2.1	2.1
7	6.2	6.2
8	0	0
9	0	0
10	3.8	3.8
11	4.9	4.9
12	2.8	2.8
13	4.2	4.2
14	6.4	6.4
15	4.3	4.3
16	0.6	0.6
17	0	0
18	0.6	0.6
19	2.2	2.2
20	0	0
21	3.7	3.7
22	3.7	3.7
23	3.7	3.7
24	6.0	6.0
25	2.7	2.7
26	9.2	9.2
27	0	0
28	0	0
29	0	0
30	5.8	5.8
31	3.3	3.3
32	3.7	3.7
33	6.3	6.3
34	0	8.3
35	0	4.9
36	4.3	4.3
37	9.7	9.7
38	0	0
39	2.3	2.3
40	2.1	2.1
41	2.0	2.0
42	0	0
43	4.9	4.9
44	4.9	4.9
45	0.4	0.4
46	2.5	2.5
47	5.1	5.1
48	2.7	2.7

MODE / PIN NO.	REC	PLAY
Q5301		
E	2.7	2.7
C	9.2	9.2
B	3.4	3.4
Q5302		
E	6.3	6.3
C	9.2	9.2
B	6.9	6.9
Q5601		
E	4.6	4.6
C	9.2	9.2
B	4.0	4.0
Q5901		
E	9.2	9.2
C	11.9	11.9
B	9.8	9.8
Q5931		
E	2.5	2.5
C	9.2	9.2
B	3.1	3.1
Q5951		
E	12.1	12.1
C	12.0	12.0
B	11.3	11.3
Q5952		
E	0	0
C	0.1	0.1
B	0.6	0.6
Q5953		
E	11.3	11.3
C	-4.9	-4.9
B	12.3	12.3
TP5301	3.6	3.6
TP5302	3.6	3.6
TP5303	3.6	3.6
TP5305	2.7	2.7
TP5306	4.4	4.4
TP5307	0	0
TP5308	1.3	1.3
TP5309	1.6	1.6
TP5401	3.8	3.8
TP5501	0.6	0.6
TP5502	0.6	0.6
TP5503	0	0
TP5504	0	0

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

MAIN IV (POWER SUPPLY) SCHEMATIC DIAGRAM

HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.

TO TV MAIN P1002
P801-2 AC 120V 3
2
P801-1 AC 120V 1
HOT
WF44
1.6A125V
F1001 125V/1.6A
L1001 ELF18D290A/ELF15N005A /LLN23012A/VLQS0157 /VLQS0166/VLQS0167 /VLQS0168
D1001 S1WBA40 S1WBA60 S1WBA60B
C1027 0.01 Z
C1025 220P
C1028 220P
C1001 0.01
C1002 3300P
C1004 82/200V
C1003 1000P
T1001
G,H ETS28AD1F5AC /VTPS0034 /VTPS0040
A,B,C,D,E,F,I /VTPS0034 /VTPS0038 /VTPS0040 /ETS28AD1F5AC
R1004 33K 2W
C1005 4.7/200V
C1006 220P
D1002 ERA18-04 /EG01 /EG01LFH1A
WF46
R1003 330K
L1006 22 VLPS0005A
Q1001 2SC4533LP.KT 2SC5130LF608
WF45
Q1002 2SD1458
WF52
C1009 0.01
TP1001
Z D1004 MA2180 /RD18FB /1N4746A
R1005 56 1W
C1030 0.018
D1003 ERA18-04
C1007 0.1
R1006 2200
WF47
R1007 100
R1008 3900
D1016 MA165 /1SS119 /WG713A /1SS133T
R1017 10K
D1011 MA4051NH (5.1V)
R1014 220
C1021 1/50V
R1019 3900
C1018 0.1
R1020 6800
Q1005 2SB641(R,S) (POWER DOWN-OFF)
D1012 MA858
R1015 220
Q1003 2SD636(Q,R,S) (ERROR VOLTAGE DET)
R1016 5600
D1013 MA165
R1022 220
Q1004 2SB641(Q,R,S) (ERROR VOLTAGE DET)
R1018 18K
IC1001 ON3131-R.KT (ERROR VOLTAGE DET)
WF48
R1010 10
D1005 ERA18-04 /EG01 /EG01LFH1A
C1010 0.01
C1011 4.7/50V
L1002 22
D1006 RU2YXLFC1 ERB32-01L3
WF49
D1015 RD18FB (18V)
C1013 330/18V
C1014 47/50V
C1012 330/18V
R1011 4.7
WF50
WF51
D1007 ERA18-04 /EG01 /EG01LFH1A
L1003 9
PR1001 UN10015 ICP-F38-1 /VSFS0029D25
D1008 D2S4M/EK13F7 /ERB83-004/EK13 /ERB83-004G1
C1017 330/18V
C1015 330/18V

TO MAIN I
UNSW+37V 3
UNSW+14V 1
TO MAIN II
UNSW+14V 72
TO MAIN II
UNSW -30V 71
TO MAIN I
UNSW +5V(SYSCON) 4
UNSW +5V(VIDEO) 32
TO MAIN I
UNSW +5V(VIDEO) 13
UNSW +5V(SYSCON) 30
UNSW +5V(VIDEO) 31
TO MAIN II
UNSW +5V(VIDEO) 43
TO MAIN I
POWER DOWN (L) 2
TO MAIN II
POWER DOWN (L) 70

VJBS3040 A,D,E,F,I
VJBS3042 B,C,G,H

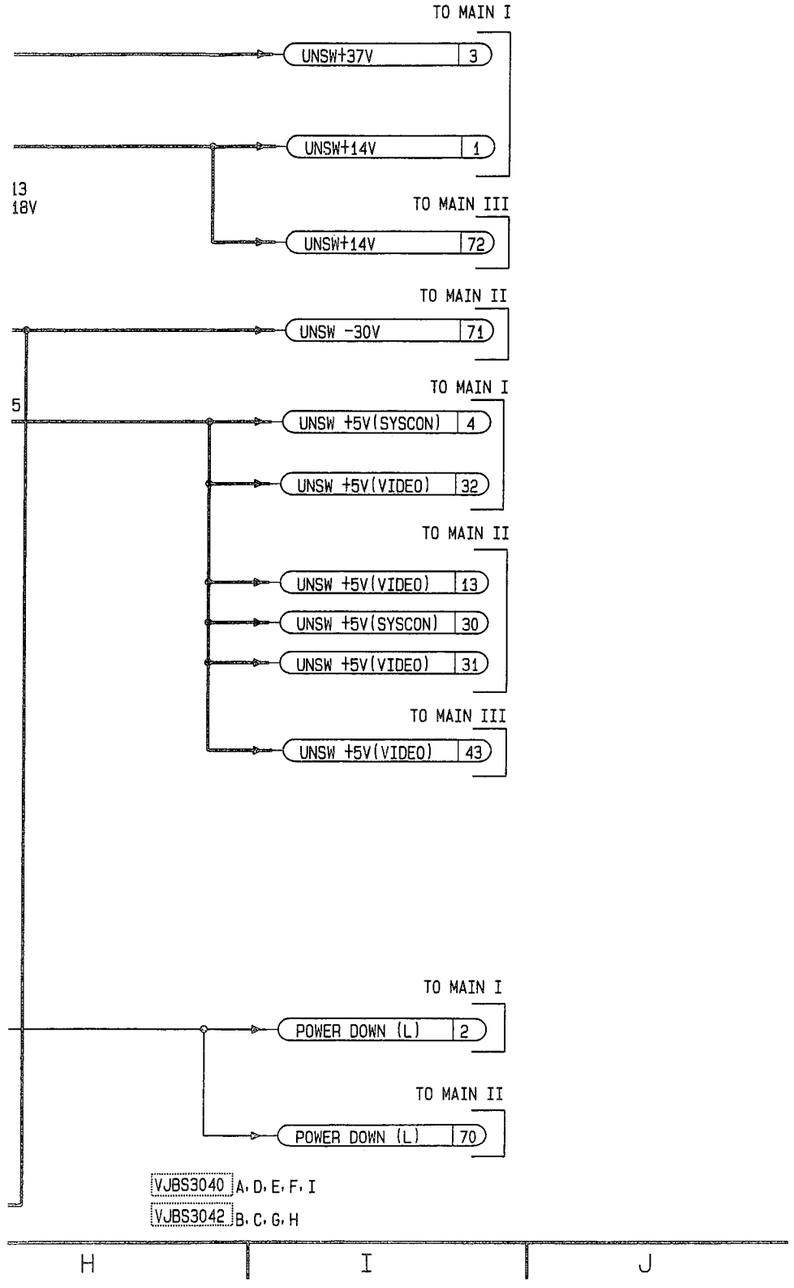
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE 1.6A 125V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D' INCENDIE N' UTILISER QUE DES FUSIBLE DE MÊME TYPE 1.6A 125V

1.6A125V

NOTE: THE VOLTAGE FOR PARTS IN HOT CIRCUIT IS MEASURED USING TP1001 AS A COMMON TERMINAL.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

UNLESS OTHERWISE SPECIFIED:
DIODES IS MA165 AND
WATTAGE OF RESISTORS IS 1/10W.



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN IV
VOLTAGE CHART

MODE / PIN NO.	REC	PLAY
IC1001		
1	5.1	5.1
2	4.4	4.4
3	2.2	2.2
4	0.6	0.6
Q1001		
E	0	0
C	133.5	133.5
B	0.3	0.3
Q1002		
E	0	0
C	0.3	0.3
B	0.6	0.6
Q1003		
E	-0.6	-0.6
C	4.1	4.1
B	0	0
Q1004		
E	4.4	4.4
C	0.1	0.1
B	4.1	4.1
Q1005		
E	5.1	5.1
C	5.1	5.1
B	4.7	4.7
TP1001	0	0

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

TV STEREO SCHEMATIC DIAGRAM (I)

REC AUDIO SIGNAL PB AUDIO SIGNAL

TO MAIN P4201

PIN-1	AUDIO -5.6V	1
PIN-2	FM MONO (L)	2
PIN-3	FM STEREO (L)	3
PIN-4	TUNER AUDIO	4
PIN-5	AUDIO DEFEAT (H)	5
PIN-6	MTS(H)/SAP(L)	6
PIN-7	STEREO(H)/MONO(L)	7
PIN-8	MTS SIGNAL (L)	8

TO MAIN P4202

PIN-9	SAP SIGNAL (L)	9
PIN-10	GND	10
PIN-11		11
PIN-12	UNSW +5V (VIDEO)	12
PIN-13	SW +12V	13

TO MAIN P4203

PIN-14		14
PIN-15	GND	15
PIN-16		16
PIN-17	GND	17
PIN-18		18
PIN-19		19
PIN-20	AUDIO MUTE (H)	20
PIN-21	UNSW +14V	21

TO MAIN P4204

PIN-22	AUDIO AMP MUTE (H)	22
PIN-23	TV VOLUME CONTROL	23
PIN-24	TUNER SIGNAL (L)	24
PIN-25	FM (L)	25
PIN-26	RF AUDIO	26
PIN-27	GND	27
PIN-28	AUDIO	28
PIN-29	DC +17V	29

IC4901 VCRS0214 (MTS/SAP AUDIO PROCESS)

SAP DETECTOR, SAP BPF, NOISE DETECTOR, BPF, LPF, AMP, PILOT DETECTOR, PHASE DETECTOR, VCO, 1/4, 1/2, SAP DEMODU, PILOT CANCEL, L-R DEMODU, L-R LPF, MTS LED DRIVE, SAP LED DRIVE, L+R LPF, 70uS DE-EMPHASIS, MTS, SAP, MODE SELECTOR, MATRIX, dBX NOISE REDUCTION, LCH GND, RCH

GND 1 | 2 | 3 | 4 VDD | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12

WF65 WF66 WF67

IC9201 AN7420 (FM SIGNAL PROCESS)

FLIP FLOP 19KHz ∠90° | FLIP FLOP 19KHz ∠0 | FLIP FLOP 38KHz | PHASE DETECTOR | STEREO DETECTOR | MONO/STEREO SELECTOR | STEREO SIGNAL DEMODULATOR | STEREO LED DRIVE | AMP | DC AMP | VCO

1 | 2 VCC | 3 | 4 GND | 5 | 6 | 7 L-CH | 8 R-CH | 9

IC9301 TC4053BP (INPUT SELECT)

16 VDD | 15 | 14 | 13 | 12 | 11 | 10 | 9

1 | 2 | 3 | 4 | 5 | 6 GND | 7 VEE | 8 GND

R4901 10K INPUT LEVEL, R4902 10K, R4903 22K, R4904 0, R4905 10K, R4906 10K, R4907 10K, R4908 10K, R4909 220 1/4W, R4910 10K, R4911 47K, R4912 47K, R4913 47K, R4914 47K, R4915 47K, R4916 47K, R4917 47K, R4918 47K, R4919 47K, R4920 47K, R4921 47K, R4922 47K, R4923 47K, R4924 47K, R4925 47K, R4926 33K, R4927 33K, R4928 33K, R4929 33K, R4930 33K, R4931 33K, R4932 33K, R4933 33K, R4934 33K, R4935 33K, R4936 33K, R4937 33K, R4938 33K, R4939 33K, R4940 33K, R4941 33K, R4942 33K, R4943 33K, R4944 33K, R4945 33K, R4946 33K, R4947 33K, R4948 33K, R4949 33K, R4950 33K, R4951 33K, R4952 33K, R4953 33K, R4954 33K, R4955 33K, R4956 33K, R4957 33K, R4958 33K, R4959 33K, R4960 33K, R4961 33K, R4962 33K, R4963 33K, R4964 33K, R4965 33K, R4966 33K, R4967 33K, R4968 33K, R4969 33K, R4970 33K, R4971 33K, R4972 33K, R4973 33K, R4974 33K, R4975 33K, R4976 33K, R4977 33K, R4978 33K, R4979 33K, R4980 33K, R4981 33K, R4982 33K, R4983 33K, R4984 33K, R4985 33K, R4986 33K, R4987 33K, R4988 33K, R4989 33K, R4990 33K, R4991 33K, R4992 33K, R4993 33K, R4994 33K, R4995 33K, R4996 33K, R4997 33K, R4998 33K, R4999 33K

C4301 0.01, C4302 0.01, C4303 0.01, C4304 0.01, C4305 0.01, C4306 0.01, C4307 0.01, C4308 0.01, C4309 0.01, C4310 0.01, C4311 0.01, C4312 0.01, C4313 0.01, C4314 0.01, C4315 0.01, C4316 0.01, C4317 0.01, C4318 0.01, C4319 0.01, C4320 0.01, C4321 0.01, C4322 0.01, C4323 0.01, C4324 0.01, C4325 0.01, C4326 0.01, C4327 0.01, C4328 0.01, C4329 0.01, C4330 0.01, C4331 0.01, C4332 0.01, C4333 0.01, C4334 0.01, C4335 0.01, C4336 0.01, C4337 0.01, C4338 0.01, C4339 0.01, C4340 0.01, C4341 0.01, C4342 0.01, C4343 0.01, C4344 0.01, C4345 0.01, C4346 0.01, C4347 0.01, C4348 0.01, C4349 0.01, C4350 0.01, C4351 0.01, C4352 0.01, C4353 0.01, C4354 0.01, C4355 0.01, C4356 0.01, C4357 0.01, C4358 0.01, C4359 0.01, C4360 0.01, C4361 0.01, C4362 0.01, C4363 0.01, C4364 0.01, C4365 0.01, C4366 0.01, C4367 0.01, C4368 0.01, C4369 0.01, C4370 0.01, C4371 0.01, C4372 0.01, C4373 0.01, C4374 0.01, C4375 0.01, C4376 0.01, C4377 0.01, C4378 0.01, C4379 0.01, C4380 0.01, C4381 0.01, C4382 0.01, C4383 0.01, 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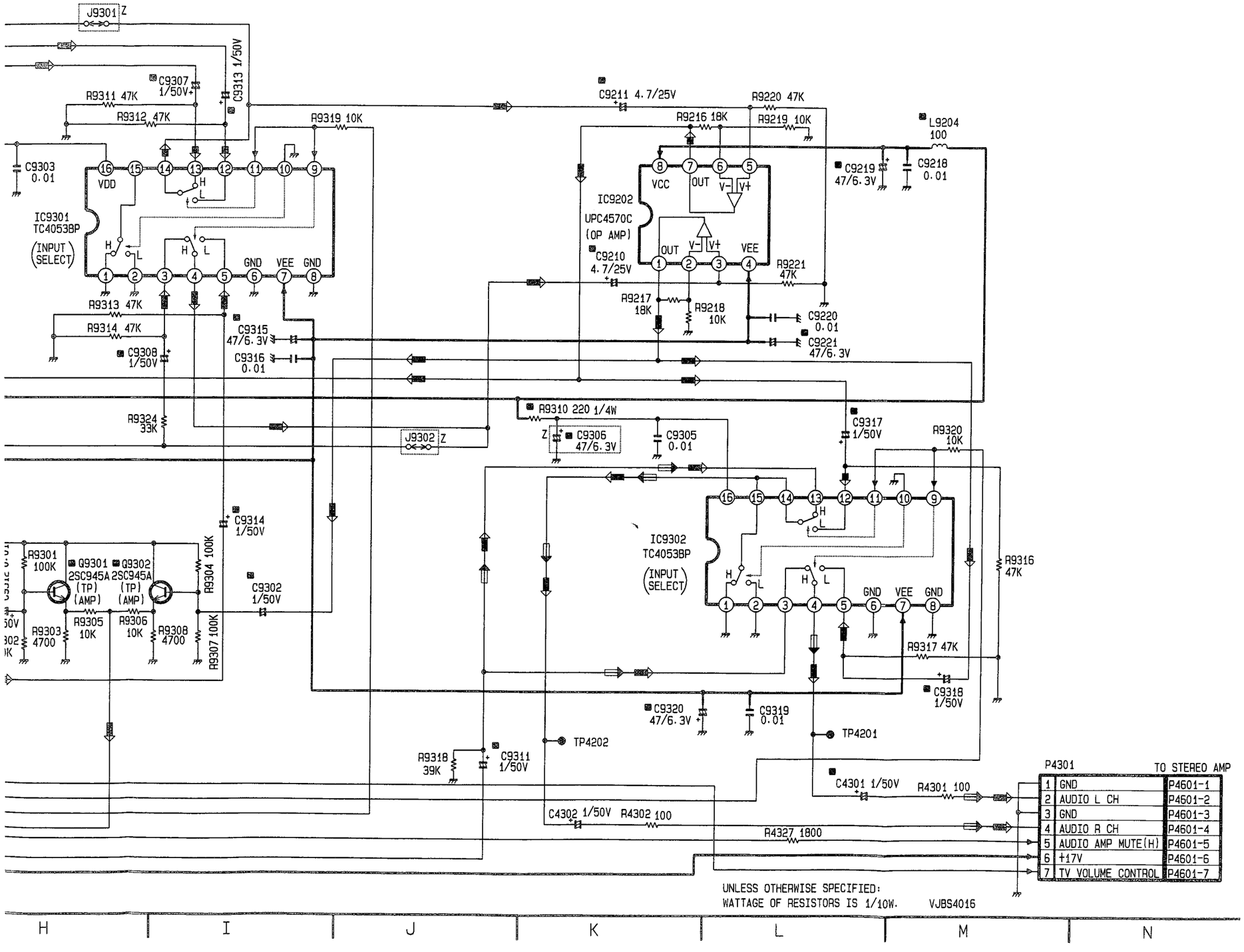


TV STEREO VOLTAGE CHART

MODE / PIN NO.	REC	PLAY
IC4901		
1	0	0
2	0	0
3	0	0
4	0	0
5	12.1	12.1
6	5.1	5.1
7	5.1	5.1
8	5.1	5.1
9	4.5	4.5
10	0	0
11	4.5	4.5
12	---	---
IC9201		
1	3.1	3.1
2	3.7	3.7
3	5.1	5.1
4	4.2	4.2
5	0	0
6	5.1	5.1
7	4.5	4.5
8	2.8	2.8
9	2.8	2.8
IC9202		
1	0	0
2	0	0
3	0	0
4	-5.7	-5.7
5	0	0
6	0	0
7	0	0
8	5.1	5.1
IC9301		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-5.7	-5.7
8	0	0
9	4.3	4.3
10	0	0
11	4.3	4.3
12	0	0
13	0.2	0.2
14	0.2	0.2
15	---	---
16	5.1	5.1

MODE / PIN NO.	REC	PLAY
IC9302		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	-5.7	-5.7
8	0	0
9	5.0	5.0
10	0	0
11	5.0	5.0
12	0	0
13	0	0
14	0	0
15	---	---
16	5.1	5.1
Q4306		
E	12.1	12.1
C	-5.2	-5.2
B	11.7	11.7
Q9201		
E	5.1	5.1
C	4.4	4.4
B	5.1	5.1
Q9301		
E	4.9	4.9
C	11.6	11.6
B	5.6	5.6
Q9302		
E	4.9	4.9
C	11.6	11.6
B	5.5	5.5
TP4201	0	0
TP4202	0	0
TP4901	4.5	4.5
TP4902	4.5	4.5
TP4903	0	0
TP9201	5.1	5.1
TP9202	2.8	2.8
TP9203	2.8	2.8

TV MAIN / CRT SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

VIDEO SIGNAL
REC AUDIO SIGNAL

UHF/VHF TUNER/TV DEMODULATOR UNIT U7001
A,B,C,G,H VEQS0596A
D,E,F,I VEQS0598

15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
FM (L)	UNSW +5V (SYS.CTL)	VIDEO	AUDIO	SW +12V	AFC	DTS CS(H)	UNSW +5V (SYS.CTL)	SERIAL DATA 0	CH FREQUENCY LOCK (L)	TUNER SIGNAL (L)	SERIAL CLOCK	SW +12V	UNSW -30V	FM (L)	SW +12V	UNSW +5V (SYS.CTL)	GND	RF-ANT

C7001 1000/6.3V
R7002 270
C7013 10/16V
TUNER SHIELD CASE GND
C7004 6800P A,B,C,G,H
C7031 33P
R7030 1.8K
C7007 0.1
R7031 1.8K
C7018 0.01
C7002 33P
C7019 0.01
R7032 1.8K
C7032 33P
C7008 220/16V
C7010 0.01
L7002 100
FOIL PATTERN FOR ANTENNA
J7001

R575 330
PK5 NO CONNECTION

5	TP 49
4	GND
3	I2C SERVICE
2	I2C SERIAL DATA
1	I2C SERIAL CLOCK

(PK5 IS USED FOR ADJUSTMENT AT FACTORY ONLY)

CRT C.B.A
J351
TP49 TP48
TP47E
A5 C5
A4 C4
A3 C3
A1 C1
A2 C2
A8 C8
A11 C11
A6 C5
C12

⚠ R561
1.0 F,I
2.2 G,H
2W
1.0 A,B,C,D,E
1W

TO MAIN PK2

P1202-19	I2C SERVICE	19
P1202-18	I2C SERIAL DATA	18
P1202-17	I2C SERIAL CLOCK	17
P1202-16	TUNER VIDEO	16
P1202-15	SW +12V	15
P1202-14	TUNER AUDIO	14
P1202-13	TV POWER ON(H)	13
P1202-12	AFC	12
P1202-11	DTS CS(H)	11
P1202-10	SERIAL DATA 0	10
P1202-9	CH FREQUENCY LOCK(L)	9
P1202-8	TUNER SIGNAL(L)	8
P1202-7	SERIAL CLOCK	7
P1202-6	UNSW -30V	6
P1202-5		5
P1202-4		4
P1202-2	UNSW +5V(VIDEO)	2
P1202-3	FM (L)	3
P1202-1	SECURITY(L)	1

TO MAIN PK1

P1203-13	BLUE	13
P1203-12	GREEN	12
P1203-11	RED	11
P1203-10	GND	10
P1203-9	V.HEIGHT CONTROL	9
P1203-8	V-OUT	8
P1203-7	HIGH VOLTAGE PROTECTOR	7
P1203-6	ABL	6
P1203-5	H-OUT	5
P1203-4	AFC	4
P1203-3	GND	3
P1203-2	H-PULSE	2
P1203-1	BLANKING PULSE	1

TPA9
D560 ERB43-04
C552 47/35V

R542 10K
R543 4700
R544 10K
C541 10/50V
D541 MA165
R541 47K
Q541 2SA733(TQ) EXCESSIVE CURRENT PROTECTOR

J532
R509 100
R512 1K
D504 MA4082-M (8.2V)
Z R505 4700
Z D502 MA165
R507 4700
R519 4.7K

C520 0.01
R521 100
R528 2700
Q506 2SA733(TQ)
EXCESSIVE CURRENT PROTECTOR
Q507 2SC946A(TQ)
R523
Q505 2SA733(TQ)
C516 0.01
R524 22K
D507 MA4200-H
R525 8200
C523 1/50V
R526 1.5M
TP52
TP51

R558 A,B,C,D,E 470 F,G,H,I 560 2W
D580
⚠ R532 1K 1W
⚠ L501 ELH5L423 F,I LLH2601 LLH2602 G,H
A-E MA167
F-I MA185
⚠ C556 0.33 0.36
R580 470 A,B,C,D,E
D581 ERB44-C

F-I
F,G,H,I

⚠ HAVE
FOR SAFETY.
VENTS.

CRT C.B.A

R351 1W A,B,C,D,E 15K 2W F,G,H,I — WF60 — Q351 (BLUE AMP) 2SC3063-RL F,G,H,I 2SC1473-QNC A,B,C,D,E — R354 2700

R357 3900 — R360 390 — C351 390P A,B,C,D,E 470P F,G,H,I

R363 A,B,C,D,E 180 F,G,H,I 120 — A,B,C,D,E,G,H — R366 2700

F,I — R355 2700

R352 1W A,B,C,D,E 15K 2W F,G,H,I — WF61 — Q352 (GREEN AMP) 2SC3063-RL F,G,H,I 2SC1473-GNC A,B,C,D,E

R358 3900 — R361 390 — C352 390P A,B,C,D,E 470P F,G,H,I

R364 120 F,G,H,I 180 A,B,C,D,E — A,B,C,D,E,G,H — R367 2700

F,I — R356 2700

WF62 — TP50

R353 1W A,B,C,D,E 15K 2W F,G,H,I — Q353 (RED AMP) 2SC3063-RL F,G,H,I 2SC1473-GNC A,B,C,D,E

R359 3900 — R362 390 — C353 470P A,B,C,D,E 560P F,G,H,I

R365 180 A,B,C,D,E 120 F,G,H,I

C354 1000P

TNP23007

P354
1 GND

A,B,C,D,E,G,H

P355
1 KG
2 G2
3 KR
4 G1
5 HEATER GND
6 HEATER
7 KB
8 E

F,I

P353
1
2 KB
3 HEATER
4 HEATER GND
5 KR
6 G2
7 KG
8 G1
9 E

KB
KG
KR
G1 G2

⚠ PICTURE TUBE

PK5 NO CONNECTION
5 TP 49
4 GND
3 I2C SERVICE
2 I2C SERIAL DATA
1 I2C SERIAL CLOCK

(PK5 IS USED FOR ADJUSTMENT AT FACTORY ONLY)

J351

TP49 TP48

TP47E

A5 C5
A4 C4
A3 C3
A1 C1
A2 C2
A8 C8
A11 C11
A6 C6
C12

C10

R561
, I
, H
, B, C, D, E

D560
343-04
C552
47/35V

TPA8

R558 A,B,C,D,E 470 F,G,H,I 560 2W — D580 — R532 1K 1W — L501 ELH5L423 LLH2601T F,I — LLH2602T G,H — J551 J552 A,B,C,D,E F,G,H,I

A-E MA167 F-I MA165 — C556 0.33 A,D,E,F,G,H,I 0.36 B,C — C581 3300P — D582 RH2FV

R580 470 A,B,C,D,E — D581 — C580 0.15 F,I 0.082 G,H

D556B ERB43-04V

⚠ T551 KFT2AB073F/LLE6601K A,B,C,D,E
KFT3AB074F/LLE6501K F,G,H,I

ANODE

F-I R559 12K

R556 100K A,B,C,D,E 62K F,G,H,I
R555 120K A,B,C,D,E 62K F,G,H,I
R554 12K F,G,H,I 10K A,B,C,D,E

COMPARISON CHART
OF MODELS & MARKS

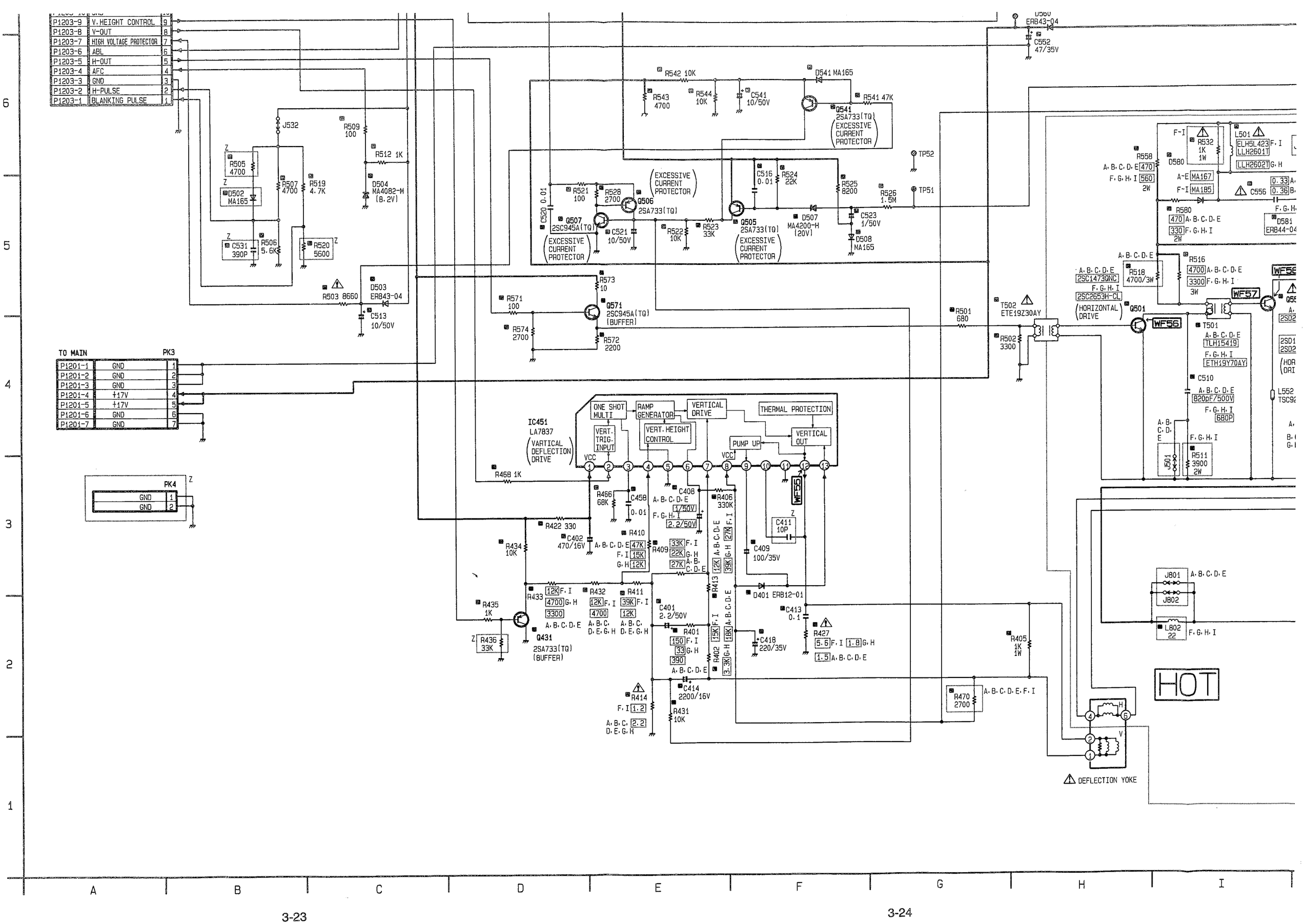
MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

TV MAIN VOLTAGE CHART

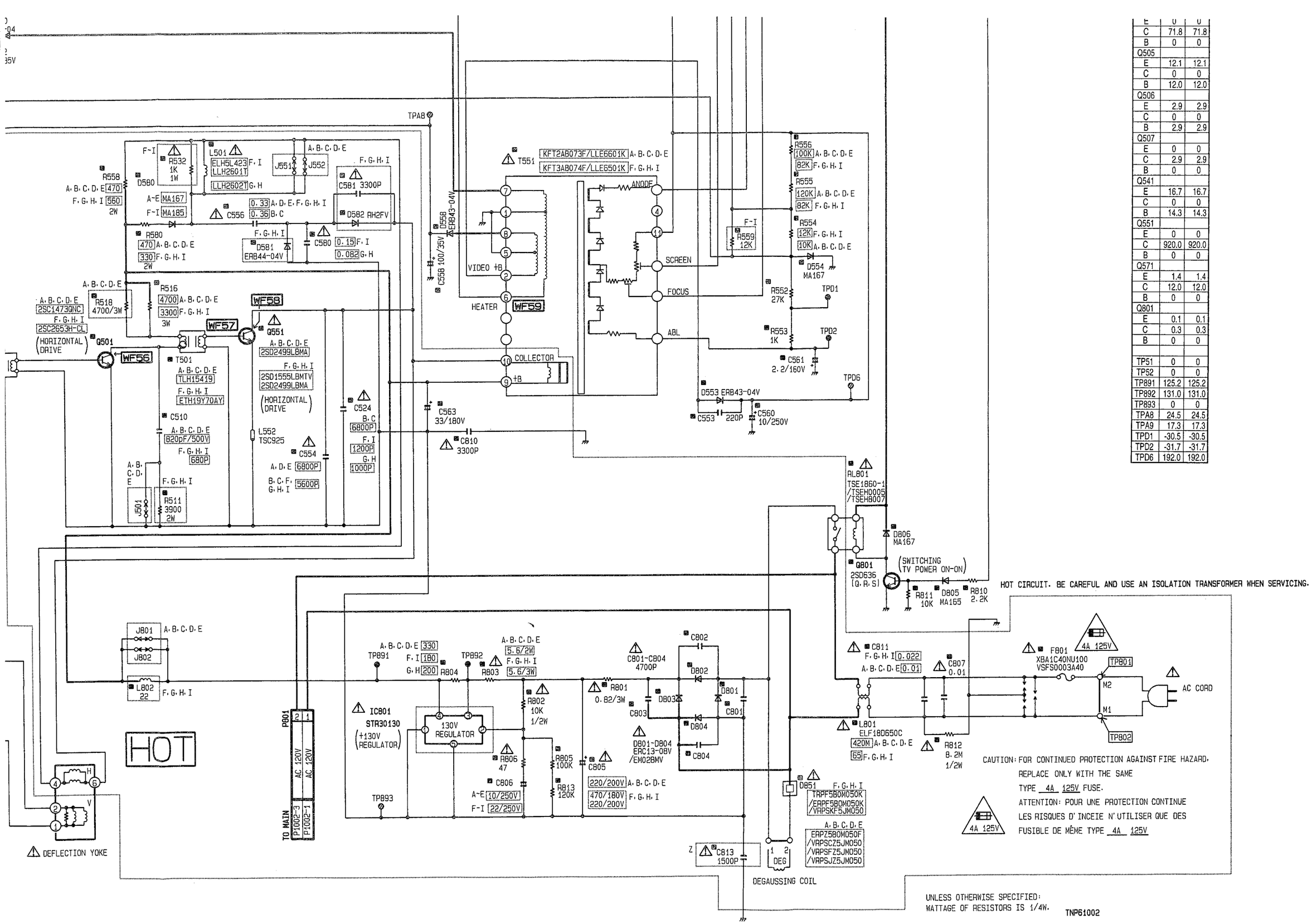
MODE / PIN NO.	REC	PLAY
IC451		
1	10.4	10.4
2	3.8	3.8
3	5.1	5.1
4	0	0
5	0	0
6	0	0
7	5.1	5.1
8	24.5	24.5
9	1.9	1.9
10	1.3	1.3
11	0	0
12	11.8	11.8
13	24.9	24.9
IC801		
1	0	0
2	125.9	125.9
3	131.0	131.0
4	125.2	125.2
5	0	0
Q431		
E	0	0
C	0	0
B	2.1	2.1
Q501		
E	0	0
C	71.8	71.8
B	0	0
Q505		
E	12.1	12.1
C	0	0
B	12.0	12.0
Q506		
E	2.9	2.9
C	0	0
B	2.9	2.9
Q507		
E	0	0
C	2.9	2.9
B	0	0
Q541		
E	16.7	16.7
C	0	0
B	14.3	14.3
Q551		
E	0	0
C	920.0	920.0

CRT VOLTAGE CHART

MODE / PIN NO.	REC	PLAY
Q351		
E	3.7	3.7
C	137.0	137.0
B	4.0	4.0
Q352		
E	3.5	3.5
C	143.0	143.0
B	3.8	3.8
Q353		
E	3.7	3.7
C	138.5	138.5
B	4.0	4.0
TP47E	0	0
TP48	4.0	4.0
TP49	4.0	4.0
TP50	139.0	139.0

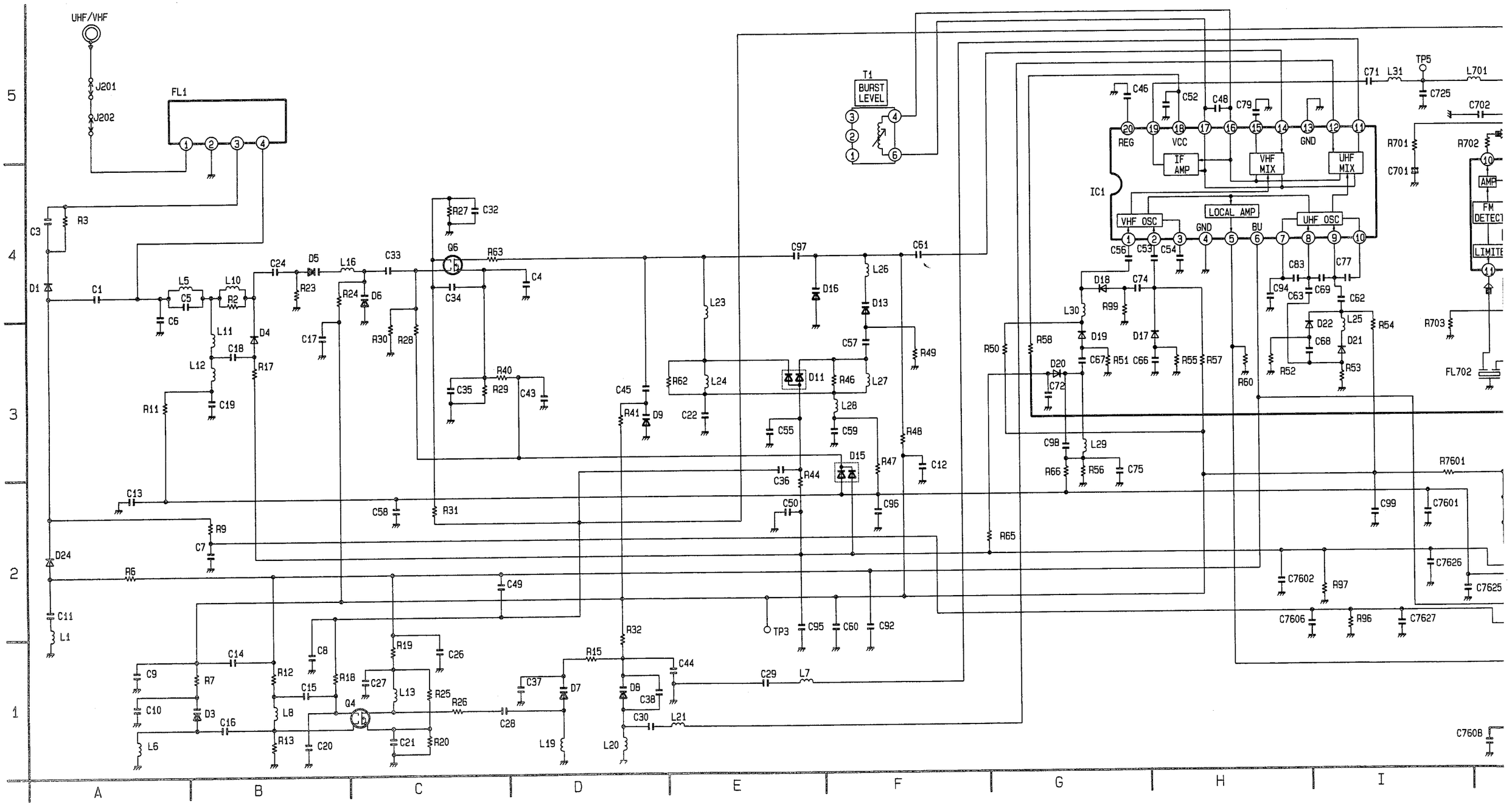

P1203-9 V.HEIGHT CONTROL 9
P1203-8 V-OUT 8
P1203-7 HIGH VOLTAGE PROTECTOR 7
P1203-6 ABL 6
P1203-5 H-OUT 5
P1203-4 AFC 4
P1203-3 GND 3
P1203-2 H-PULSE 2
P1203-1 BLANKING PULSE 1
J532
R505 4700
D502 MA165
R507 4700
R519 4.7K
R509 100
R512 1K
D504 MA4082-M (8.2V)
C531 390P
R506 5.6K
R520 5600
R503 8660
D503 ER843-04
C513 10/50V
R542 10K
R543 4700
R544 10K
C541 10/50V
D541 MA165
R541 47K
Q541 2SA733(TQ) EXCESSIVE CURRENT PROTECTOR
TP52
TP51
C520 0.01
R521 100
R528 2700
Q506 2SA733(TQ)
EXCESSIVE CURRENT PROTECTOR
Q507 2SC945A(TQ)
EXCESSIVE CURRENT PROTECTOR
C521 10/50V
R522 10K
R523 33K
C516 0.01
R524 22K
R525 8200
R526 1.5M
Q505 2SA733(TQ) EXCESSIVE CURRENT PROTECTOR
D507 MA4200-H (20V)
C523 1/50V
D508 MA165
R573 10
R571 100
Q571 2SC945A(TQ) (BUFFER)
R574 2700
R572 2200
R501 680
T502 ETE19Z30AY
R502 3300
D560 ER843-04
C552 47/35V
F~I
R532 1K 1W
L501 ELH5L423 F, I
LLH2601T
LLH2602T G, H
R558 A, B, C, D, E 470
F, G, H, I 560 2W
D580
A-E MA167
F-I MA185
C556 0.33 A, 0.36 B,
R580 470 A, B, C, D, E
330 F, G, H, I 2W
D581 ER844-04
R516 4700 A, B, C, D, E
3300 F, G, H, I 3W
R518 4700/3W
A, B, C, D, E 2SC1473GNC
F, G, H, I 2SC2653H-CL
(HORIZONTAL DRIVE)
Q501
WF56
WF57
T501 A, B, C, D, E TLH15419
F, G, H, I ETH19Y70AY
C510 A, B, C, D, E 820pF/500V
F, G, H, I 680P
A, B, C, D, E
F, G, H, I
J501
R511 3900 2W
L552 TSC92
TO MAIN PK3
P1201-1 GND 1
P1201-2 GND 2
P1201-3 GND 3
P1201-4 +17V 4
P1201-5 +17V 5
P1201-6 GND 6
P1201-7 GND 7
PK4 Z
GND 1
GND 2
IC451 LA7837 (VARTICAL DEFLECTION DRIVE)
ONE SHOT MULTI
RAMP GENERATOR
VERTICAL DRIVE
THERMAL PROTECTION
VERT. TRIG. INPUT
VERT. HEIGHT CONTROL
PUMP UP
VERTICAL OUT
VCC
R468 1K
R466 68K
C458 0.01
C408 A, B, C, D, E 1/50V F, G, H, I 2.2/50V
R406 330K
WF55
C411 10P
C409 100/35V
R422 330
C402 470/16V
R410 A, B, C, D, E 47K F, I 15K G, H 12K
R409 33K F, I 22K G, H 27K A, B, C, D, E
R434 10K
R435 1K
R436 33K
Q431 2SA733(TQ) (BUFFER)
R433 12K F, I 4700 G, H 3300 A, B, C, D, E
R432 12K F, I 4700 A, B, C, D, E, G, H
R411 39K F, I 12K A, B, C, D, E, G, H
C401 2.2/50V
R401 150 F, I 33 G, H 390 A, B, C, D, E
R402 15K F, I 18K A, B, C, D, E 3.3K G, H
R413 12K A, B, C, D, E 39K G, H 27K F, I
D401 ER812-01
C413 0.1
C418 220/35V
R427 5.6 F, I 1.8 G, H 1.5 A, B, C, D, E
R405 1K 1W
R414 F, I 1.2 A, B, C, D, E, G, H 2.2
C414 2200/16V
R431 10K
R470 2700 A, B, C, D, E, F, I
J801 A, B, C, D, E
J802
L802 22 F, G, H, I
HOT
DEFLECTION YOKE

E	0	0
C	71.8	71.8
B	0	0
Q505		
E	12.1	12.1
C	0	0
B	12.0	12.0
Q506		
E	2.9	2.9
C	0	0
B	2.9	2.9
Q507		
E	0	0
C	2.9	2.9
B	0	0
Q541		
E	16.7	16.7
C	0	0
B	14.3	14.3
Q551		
E	0	0
C	920.0	920.0
B	0	0
Q571		
E	1.4	1.4
C	12.0	12.0
B	0	0
Q801		
E	0.1	0.1
C	0.3	0.3
B	0	0
TP51	0	0
TP52	0	0
TP891	125.2	125.2
TP892	131.0	131.0
TP893	0	0
TPA8	24.5	24.5
TPA9	17.3	17.3
TPD1	-30.5	-30.5
TPD2	-31.7	-31.7
TPD6	192.0	192.0

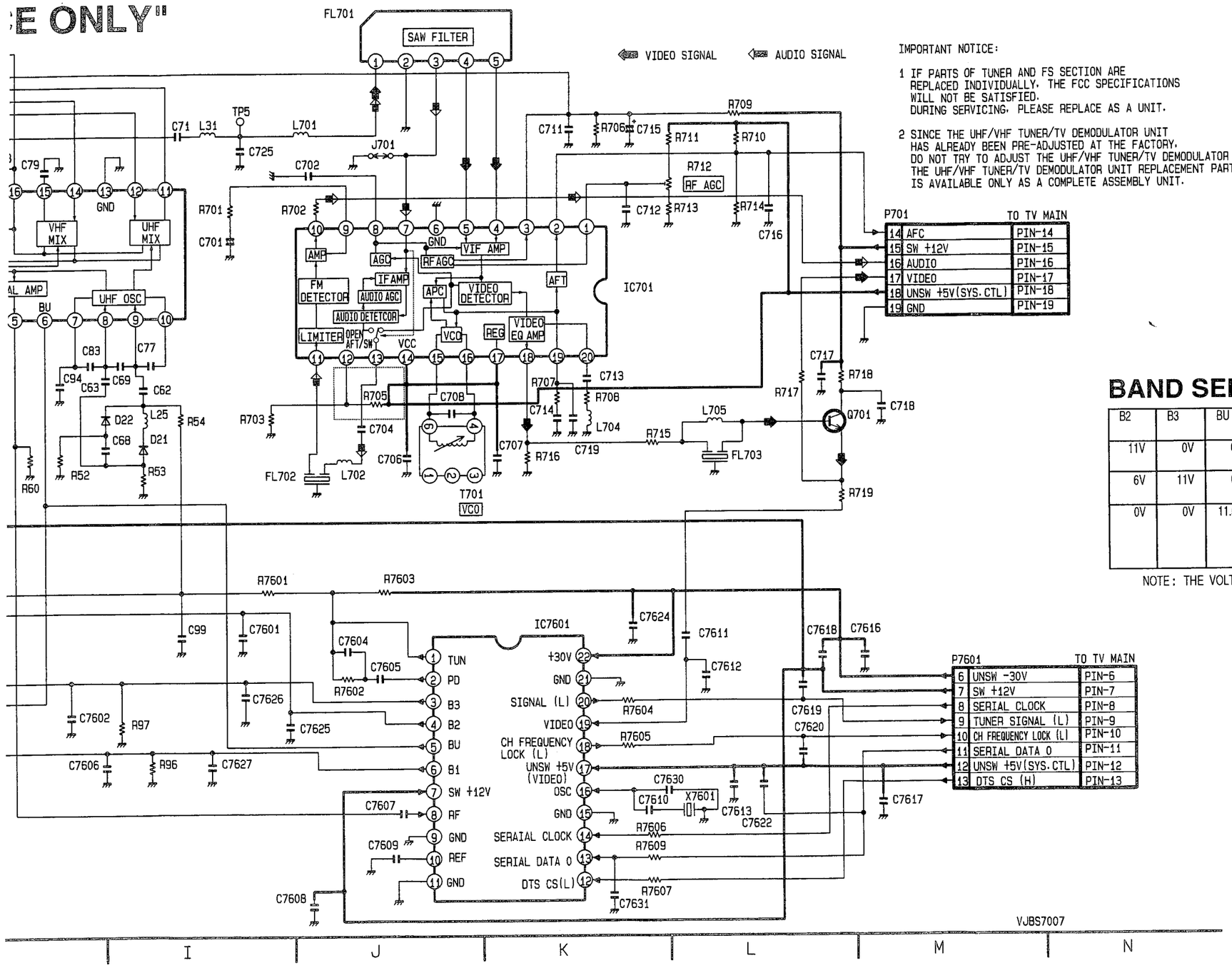


UHF/VHF TUNER/TV DEMODULATOR SCHEMATIC DIAGRAM (A,B,C,G,H)

"FOR REFERENCE ONLY"



E ONLY"



IMPORTANT NOTICE:

1 IF PARTS OF TUNER AND FS SECTION ARE REPLACED INDIVIDUALLY, THE FCC SPECIFICATIONS WILL NOT BE SATISFIED. DURING SERVICING, PLEASE REPLACE AS A UNIT.

2 SINCE THE UHF/VHF TUNER/TV DEMODULATOR UNIT HAS ALREADY BEEN PRE-ADJUSTED AT THE FACTORY, DO NOT TRY TO ADJUST THE UHF/VHF TUNER/TV DEMODULATOR UNIT. THE UHF/VHF TUNER/TV DEMODULATOR UNIT REPLACEMENT PART IS AVAILABLE ONLY AS A COMPLETE ASSEMBLY UNIT.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

BAND SELECTION CHART

B2	B3	BU	CHANNEL
11V	0V	0V	2CH-6CH 5A, A-5-A-1, A, B
6V	11V	0V	7CH-13CH C-KK
0V	0V	11.5V	14CH-69CH 65CH-94CH (CATV) 100CH-125CH (CATV) LL-EEE

NOTE: THE VOLTAGES ARE APPROXIMATE.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

UHF/VHF TUNER/TV DEMODULATOR SCHEMATIC DIAGRAM (D,E,F,I)

"FOR REFERENCE ONLY"

VIDEO SIGNAL AUDIO SIGNAL

UHF/VHF

TO TV MAIN P201

PIN-5	FM (L)	5
PIN-4	SW +12V	4
PIN-3	UNSW +5V (SYS. CTL)	3
PIN-2	GND	2
PIN-1	RF_ANT	1

TUNER CHILD

P7003	FM (H)	P702 5
	AGC	4
	AFC	3
	SW +12V	2
	FM (L)	1
P7002	GND	P703 1
	SIF	2

VJBS0A32

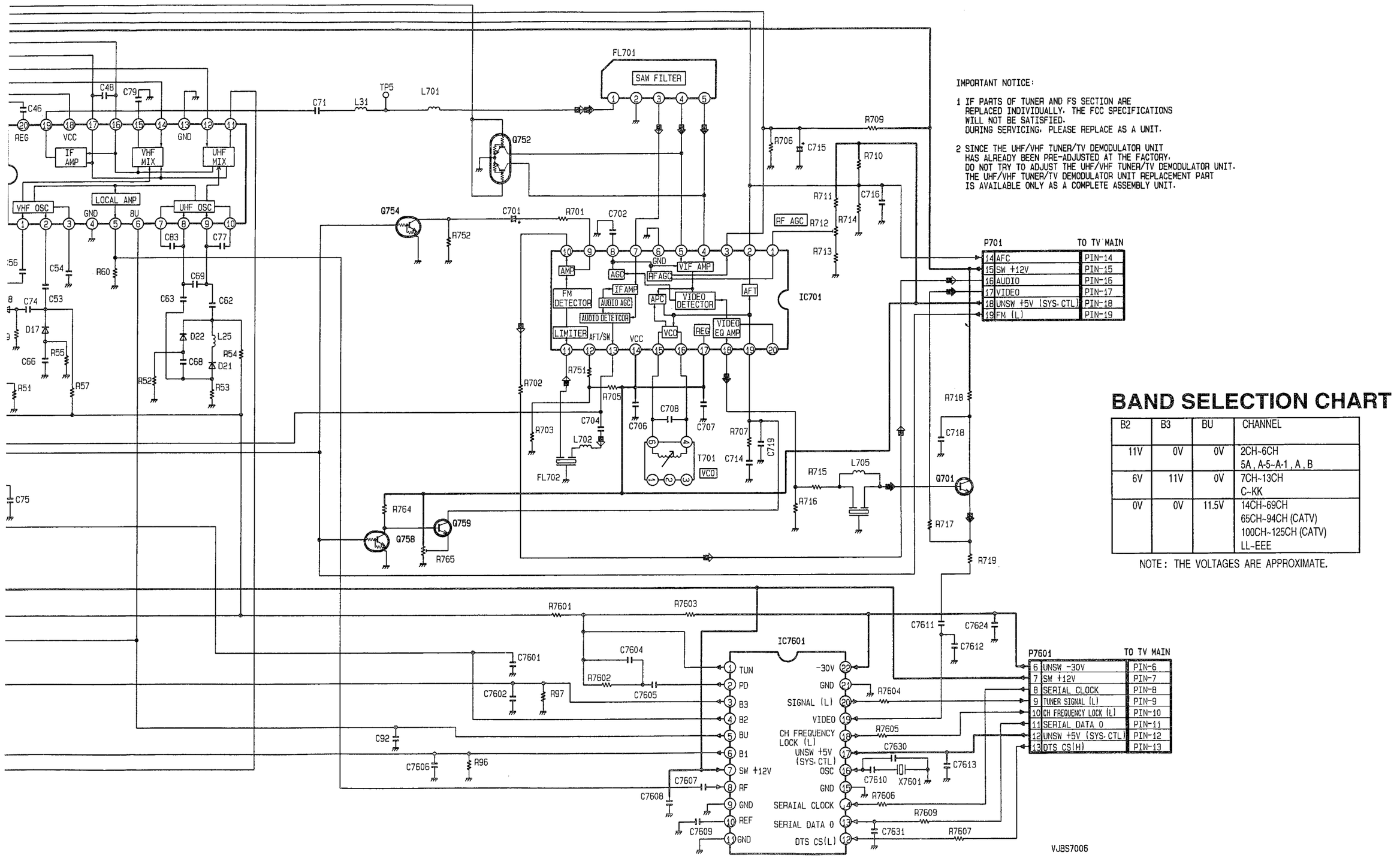
T1 BURST LEVEL

IC1: REG, VCC, GND, IF AMP, VHF MIX, UHF MIX, LOCAL AMP, VHF OSC, UHF OSC, BU

FL1

TP3

"E ONLY"



IMPORTANT NOTICE:

1 IF PARTS OF TUNER AND FS SECTION ARE REPLACED INDIVIDUALLY, THE FCC SPECIFICATIONS WILL NOT BE SATISFIED. DURING SERVICING, PLEASE REPLACE AS A UNIT.

2 SINCE THE UHF/VHF TUNER/TV DEMODULATOR UNIT HAS ALREADY BEEN PRE-ADJUSTED AT THE FACTORY, DO NOT TRY TO ADJUST THE UHF/VHF TUNER/TV DEMODULATOR UNIT. THE UHF/VHF TUNER/TV DEMODULATOR UNIT REPLACEMENT PART IS AVAILABLE ONLY AS A COMPLETE ASSEMBLY UNIT.

P701		TO TV MAIN
14	AFC	PIN-14
15	SW +12V	PIN-15
16	AUDIO	PIN-16
17	VIDEO	PIN-17
18	UNSW +5V (SYS. CTL)	PIN-18
19	FM (L)	PIN-19

BAND SELECTION CHART

B2	B3	BU	CHANNEL
11V	0V	0V	2CH~6CH 5A, A-5~A-1, A, B
6V	11V	0V	7CH~13CH C~KK
0V	0V	11.5V	14CH~69CH 65CH~94CH (CATV) 100CH~125CH (CATV) LL~EEE

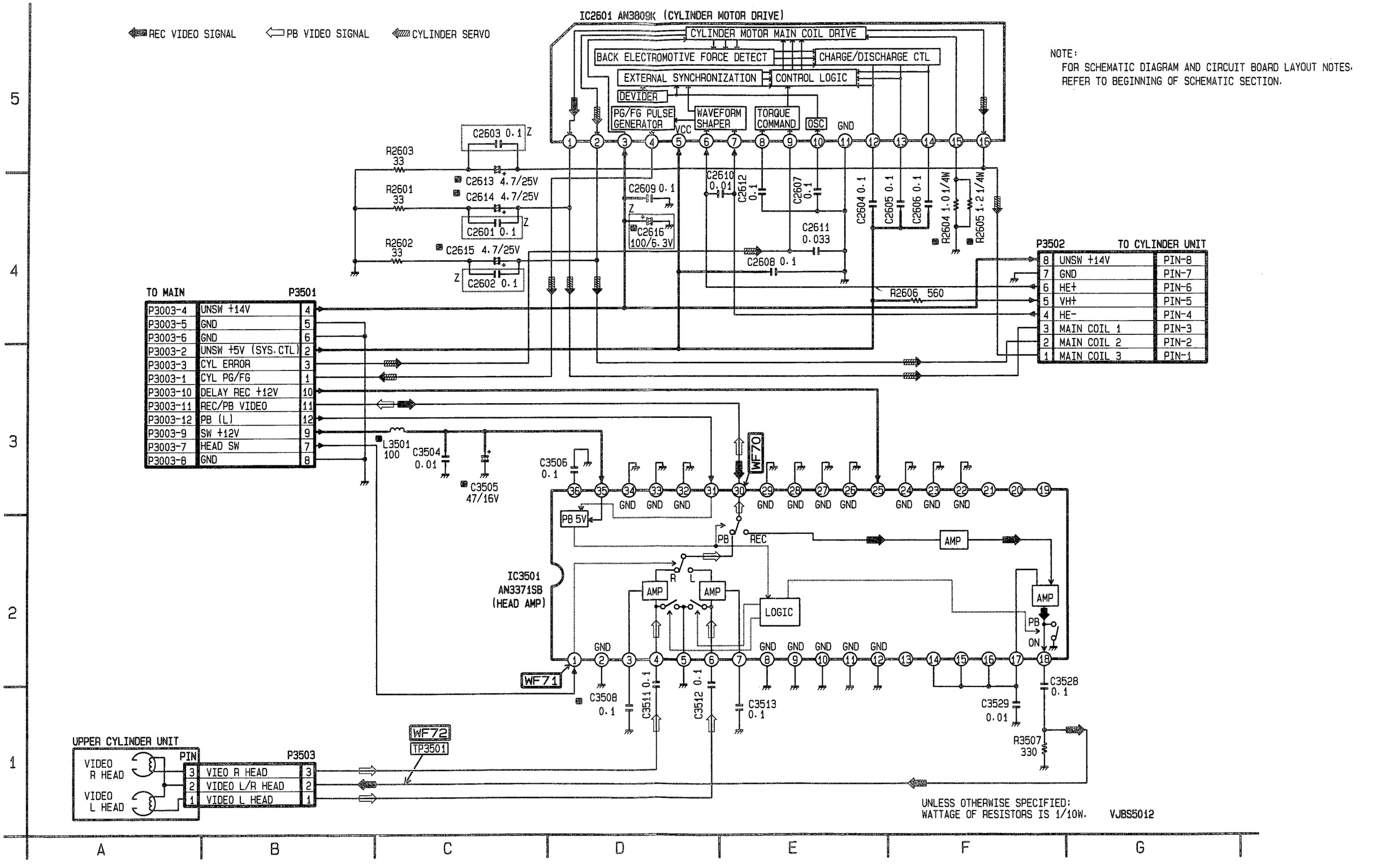
NOTE: THE VOLTAGES ARE APPROXIMATE.

P7601		TO TV MAIN
6	UNSW -30V	PIN-6
7	SW +12V	PIN-7
8	SERIAL CLOCK	PIN-8
9	TUNER SIGNAL (L)	PIN-9
10	CH FREQUENCY LOCK (L)	PIN-10
11	SERIAL DATA 0	PIN-11
12	UNSW +5V (SYS. CTL)	PIN-12
13	DTS CS(H)	PIN-13

VJBS7006

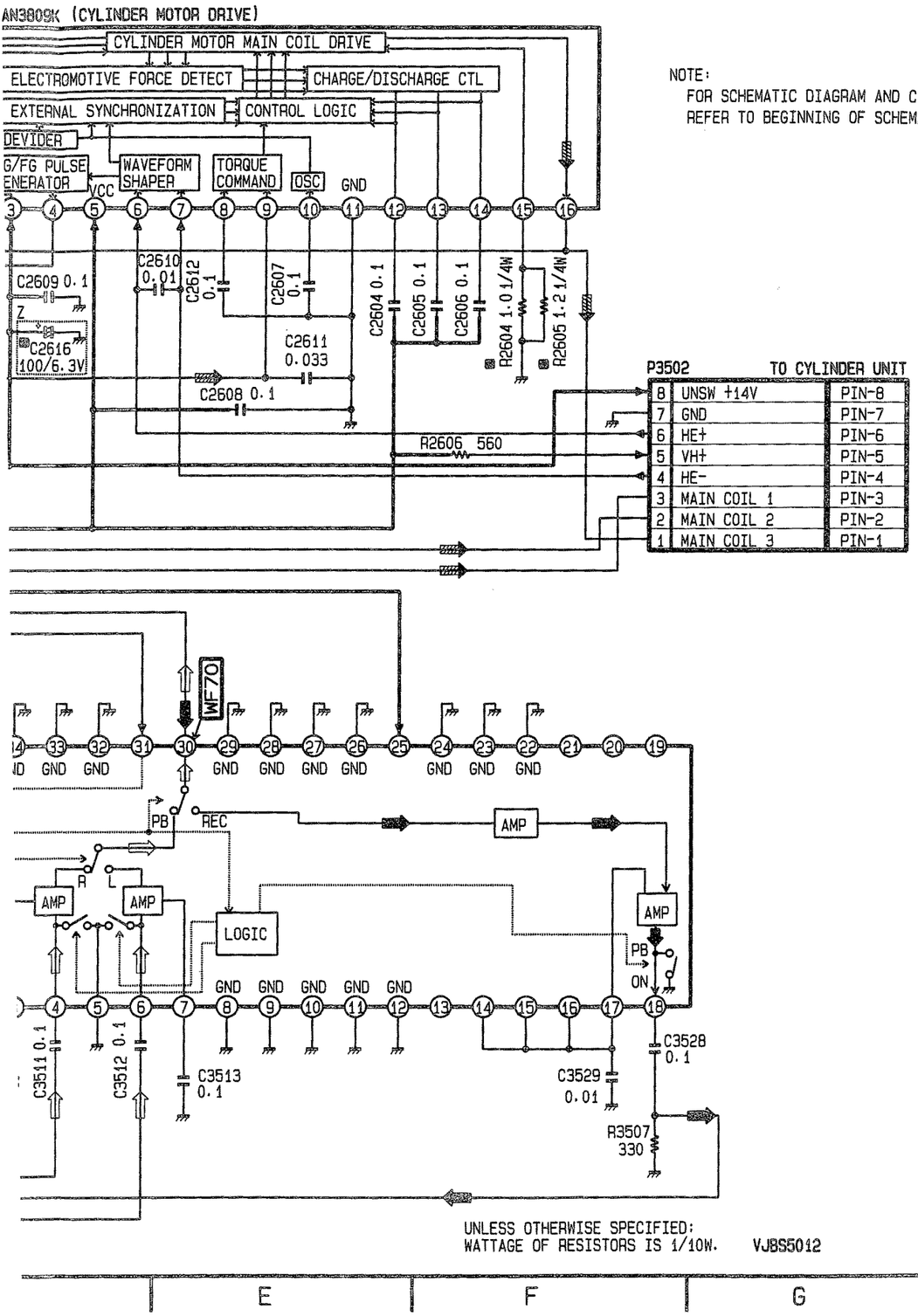
H I J K L M N O P

HEAD AMP SCHEMATIC DIAGRAM (A,B,C,F,G,H)



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

UNLESS OTHERWISE SPECIFIED:
WATTAGE OF RESISTORS IS 1/10W. VJBS5012



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

UNLESS OTHERWISE SPECIFIED:
WATTAGE OF RESISTORS IS 1/10W. VJBS5012

HEAD AMP VOLTAGE CHART

MODE / PIN NO.	STOP	REC	PLAY	FF	REW
IC2601					
1	13.0	13.0	13.0	13.0	13.0
2	13.0	13.0	13.0	13.0	13.0
3	13.5	13.5	13.5	13.5	13.5
4	1.2	1.2	1.2	1.2	1.2
5	5.1	5.1	5.1	5.1	5.1
6	0.9	0.9	0.9	0.9	0.9
7	1.0	1.0	1.0	1.0	1.0
8	0.7	0.7	0.7	0.7	0.7
9	2.6	2.6	2.6	2.6	2.6
10	1.5	1.5	1.5	1.5	1.5
11	0	0	0	0	0
12	3.9	3.9	3.9	3.9	3.9
13	3.9	3.9	3.9	3.9	3.9
14	3.9	3.9	3.9	3.9	3.9
15	0.1	0.1	0.1	0.1	0.1
16	13.2	13.2	13.2	13.2	13.2
IC3501					
1	2.6	2.6	2.6	2.6	2.6
2	0	0	4.2	0	0
3	0.3	0.3	1.4	0.3	0.3
4	0	0	0.7	0	0
5	0	0	0	0	0
6	0	0	0.7	0	0
7	0.2	0.2	1.4	0.2	0.2
8	0	0	0	0	0
9	0	0	0	0	0
10	0.2	0.2	2.2	0.2	0.2
11	0	0	0	0	0
12	0	0	0	0	0
13	---	---	---	---	---
14	0.2	0.2	2.2	0.2	0.2
15	---	---	---	---	---
16	0	6.3	0	0	0
17	0	6.3	0	0	0
18	0	6.3	0	0	0
19	---	---	---	---	---
20	---	---	---	---	---
21	---	---	---	---	---
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0.5	11.9	0.5	0.5	0.5
26	0	0	0	0	0
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	2.7	2.7	2.3	2.7	2.7
31	5.1	5.1	0.1	5.1	5.1
32	0	0	0	0	0
33	0	0	0	0.2	0.2
34	0	0	0	0	0
35	12.0	12.0	12.0	12.0	12.0
36	0.1	0.1	5.0	0.1	0.1
TP3501	0	0	0	0	0

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

HEAD AMP SCHEMATIC DIAGRAM (D,E,I)

REC VIDEO SIGNAL PB VIDEO SIGNAL CYLINDER SERVO

NOTE:
FOR SCHEMATIC DIAGRAM
REFER TO BEGINNING OF

IC2601 AN3809K (CYLINDER MOTOR DRIVE)

CYLINDER MOTOR MAIN COIL DRIVE
BACK ELECTROMOTIVE FORCE DETECT
CHARGE/DISCHARGE CTL
EXTERNAL SYNCHRONIZATION
CONTROL LOGIC
DEVIDER
PG/FG PULSE GENERATOR
WAVEFORM SHAPER
TORQUE COMMAND
OSC
VCC
GND

TO MAIN — P3501

P3003-4	UNSW +14V	4
P3003-5	GND	5
P3003-6	GND	6
P3003-2	UNSW +5V (SYS.CTL)	2
P3003-3	CYL ERROR	3
P3003-1	CYL PG/FG	1
P3003-10	DELAY REC +12V	10
P3003-13	CUE/REV/SS (L)	13
P3003-11	REC/PB VIDEO	11
P3003-12	PB (L)	12
P3003-14	HEAD AMP SW	14
P3003-15	ENVELOPE DET	15
P3003-9	SW +12V	9
P3003-7	HEAD SW	7
P3003-8	GND	8

P3502 — TO C

8	UNSW +14V
7	GND
6	HE+
5	VH+
4	HE-
3	MAIN COIL 1
2	MAIN COIL 2
1	MAIN COIL 3

R2603 33
R2601 33
R2602 33
C2603 0.1 Z
C2613 4.7/25V
C2614 4.7/25V
C2601 0.1 Z
C2615 4.7/25V
C2602 0.1 Z
C2609 0.1
C2610 0.01
C2612 0.1
C2507 0.1
C2611 0.033
C2608 0.1
C2616 100/6.3V
C2604 0.1
C2605 0.1
C2606 0.1
R2604 1.0 1/4W
R2605 1.2 1/4W
R2606 560

L3501 100
C3504 0.01
C3505 47/16V
R3501 47K
C3506 0.1
C3507 0.01

WF73
WF74
WF75
TP3501

PB +5V CTL
ENVE DET
PB
REC
AMP
SP
LP/SLP
LOGIC
ON

IC3501
AN3361SB
(HEAD AMP)

C3533 0.01
C3508 0.1
C35110.1
C3512 0.1
C3513 0.1
C3520 0.1
C3519 0.1
C3525 0.1
C3524 0.1
C3532 0.1
C3529 0.01
C3528 0.1
R3502 56
R3503 56
R3504 56
R3505 56
R3506 560
R3507 560

UPPER CYLINDER UNIT

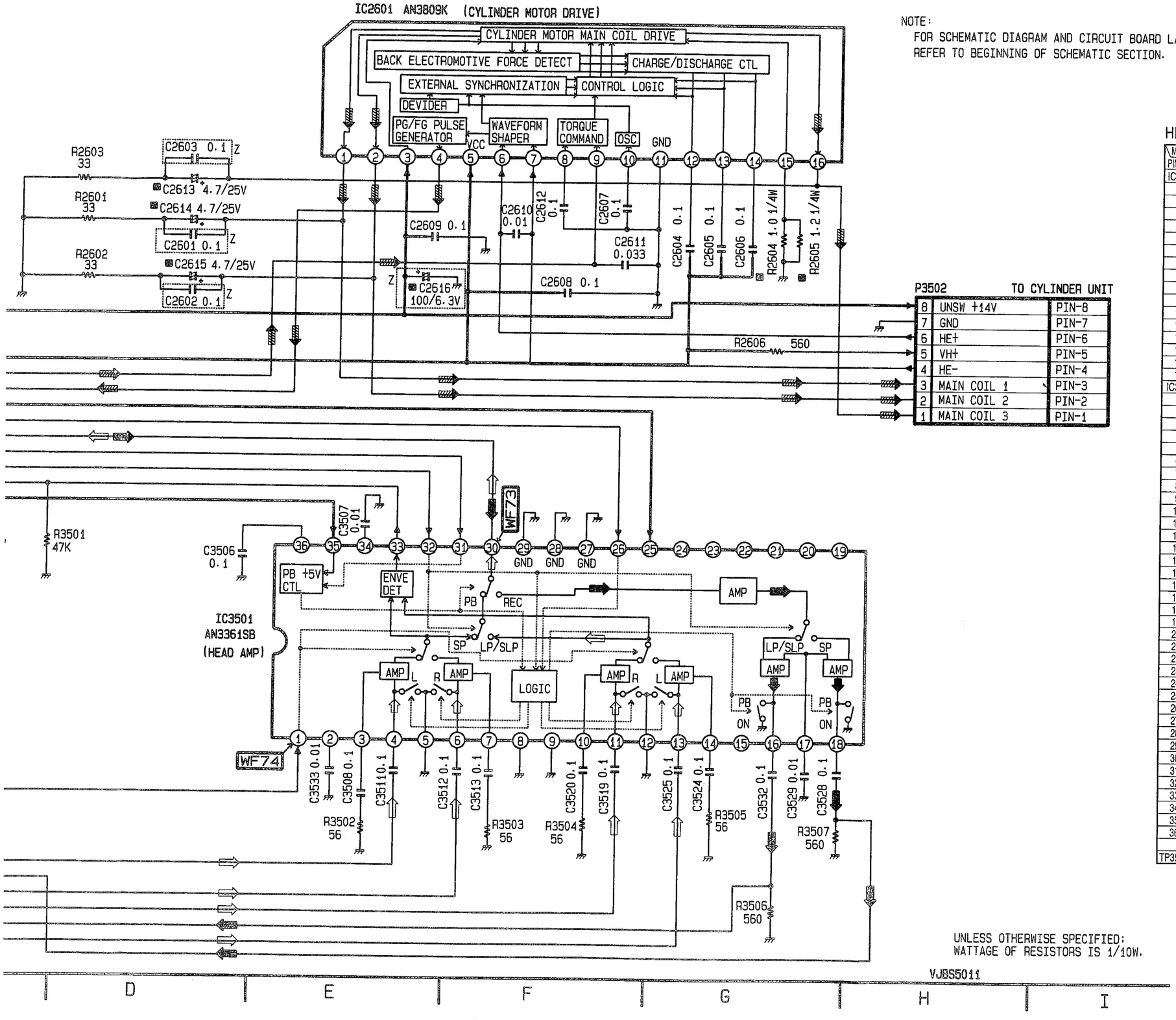
VIDEO SP L HEAD
VIDEO SP R HEAD
VIDEO LP/SLP R HEAD
VIDEO LP/SLP L HEAD

P3503

PIN		
6	VIDEO SP L HEAD	6
5	VIDEO SP L/R HEAD	5
4	VIDEO SP R HEAD	4
3	VIDEO LP/SLP R HEAD	3
2	VIDEO LP/SLP L/R HEAD	2
1	VIDEO LP/SLP L HEAD	1

UNLESS OTHEI
WATTAGE OF I

VJBS5011



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

HEAD AMP VOLTAGE CHART

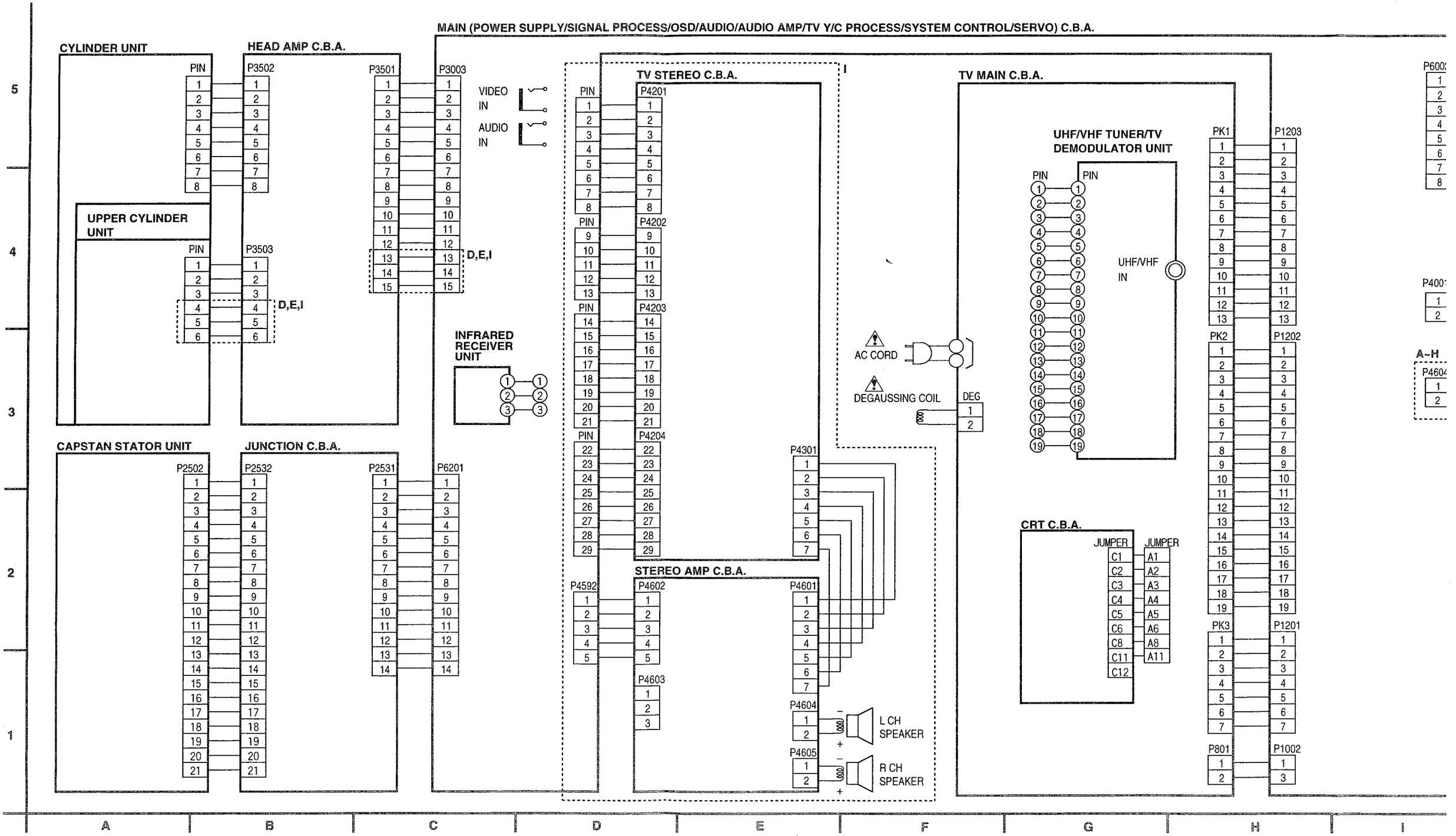
MODE / PIN NO.	STOP	REC	PLAY	FF	REW
IC2601					
1	13.0	13.0	13.0	13.0	13.0
2	13.0	13.0	13.0	13.0	13.0
3	13.5	13.5	13.5	13.5	13.5
4	1.2	1.2	1.2	1.2	1.2
5	5.1	5.1	5.1	5.1	5.1
6	0.9	0.9	0.9	0.9	0.9
7	1.0	1.0	1.0	1.0	1.0
8	0.7	0.7	0.7	0.7	0.7
9	2.6	2.6	2.6	2.6	2.6
10	1.5	1.5	1.5	1.5	1.5
11	0	0	0	0	0
12	3.9	3.9	3.9	3.9	3.9
13	3.9	3.9	3.9	3.9	3.9
14	3.9	3.9	3.9	3.9	3.9
15	0.1	0.1	0.1	0.1	0.1
16	13.2	13.2	13.2	13.2	13.2
IC3501					
1	2.6	2.6	2.6	2.6	2.6
2	0	0	4.2	0	0
3	0.3	0.3	1.4	0.3	0.3
4	0	0	0.7	0	0
5	0	0	0	0	0
6	0	0	0.7	0	0
7	0.2	0.2	1.4	0.2	0.2
8	0	0	0	0	0
9	0	0	0	0	0
10	0.2	0.2	2.2	0.2	0.2
11	0	0	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0.2	0.2	2.2	0.2	0.2
15	---	---	---	---	---
16	0	6.3	0	0	0
17	0	6.3	0	0	0
18	0	6.3	0	0	0
19	---	---	---	---	---
20	---	---	---	---	---
21	---	---	---	---	---
22	---	---	---	---	---
23	---	---	---	---	---
24	---	---	---	---	---
25	0.5	11.9	0.5	0.5	0.5
26	5.0	5.0	5.0	5.0	5.0
27	0	0	0	0	0
28	0	0	0	0	0
29	0	0	0	0	0
30	2.7	2.7	2.3	2.7	2.7
31	5.1	5.1	0.1	5.1	5.1
32	0.1	01	0.1	0.1	0.1
33	0	0	0	0.2	0.2
34	0.1	0.1	0.7	0.1	0.1
35	12.0	12.0	12.0	12.0	12.0
36	0.1	0.1	5.0	0.1	0.1
TP3501	0	0	0	0	0

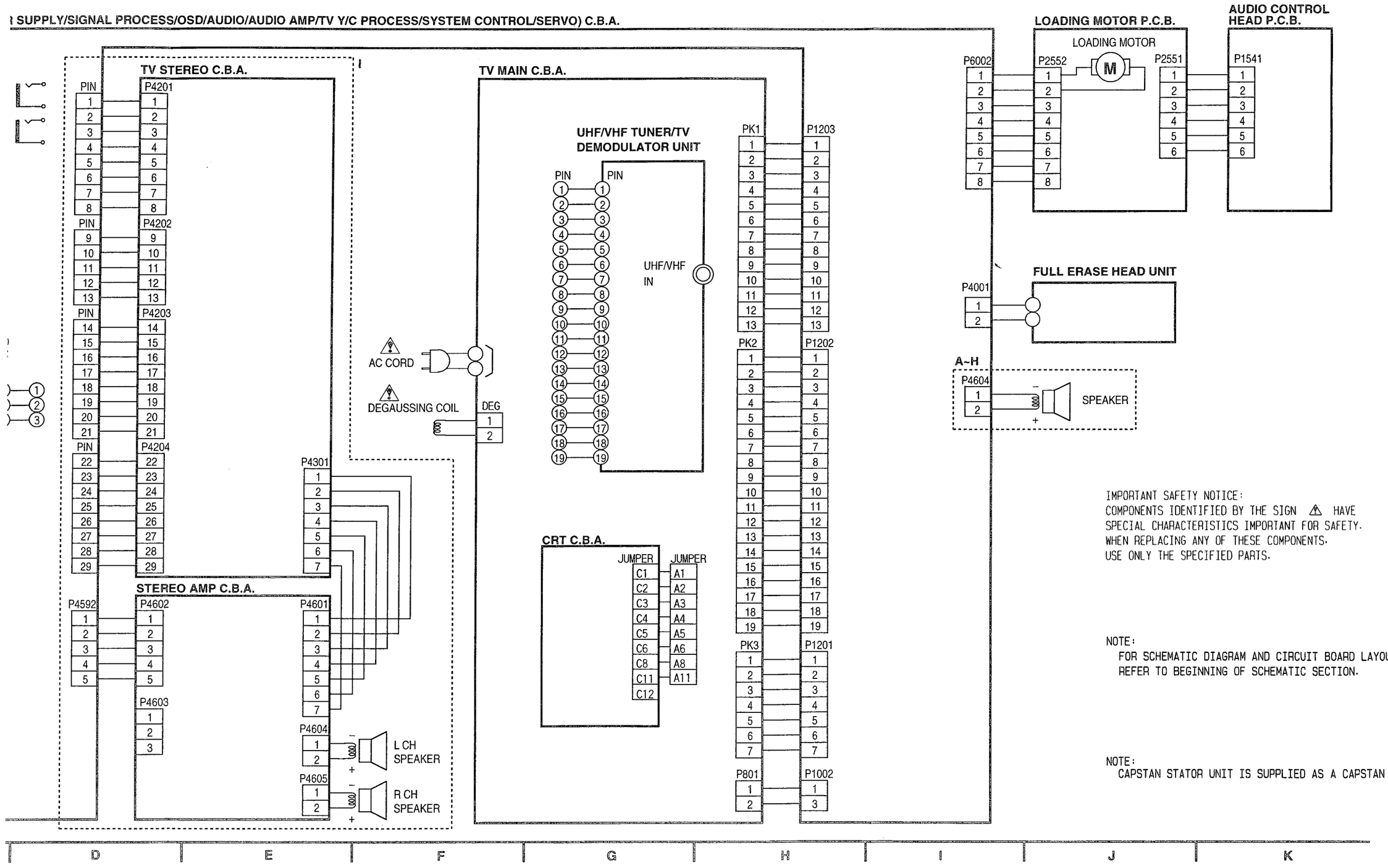
COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

UNLESS OTHERWISE SPECIFIED:
WATTAGE OF RESISTORS IS 1/10W.

INTERCONNECTION SCHEMATIC DIAGRAM





COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

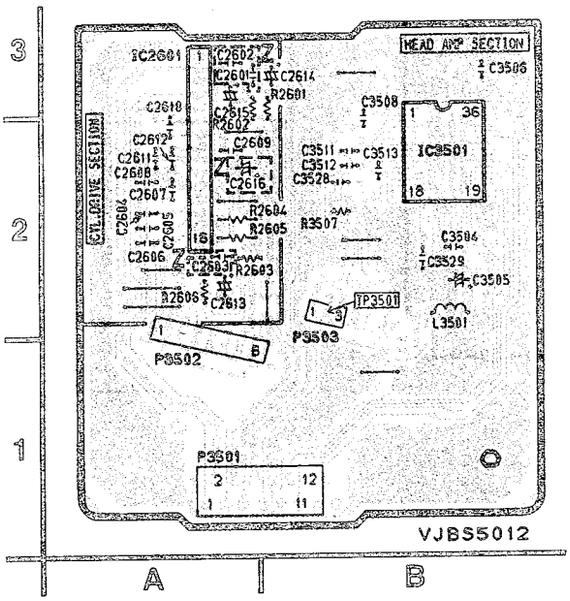
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CAPSTAN STATOR UNIT IS SUPPLIED AS A CAPSTAN STATOR KIT ONLY.

D E F G H I J K

CIRCUIT BOARD LAYOUT

HEAD AMP C.B.A. VEPS5012Z1 (A,B,C,F,G,H)



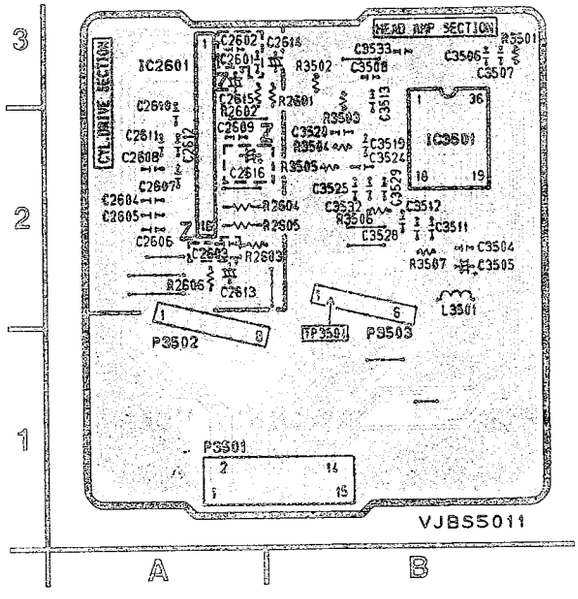
HEAD AMP	
IC	
IC2601	A-3
IC3501	B-2
CONNECTOR	
P3501	A-1
P3502	A-1
P3503	B-2
TEST POINT	
TP3501	B-2

LEADLESS COMPONENT PARTS LOCATION GUIDE
HEAD AMP C.B.A.

R2601	B-3	C2605	A-2	C3506	B-3
R2602	A-3	C2606	A-2	C3508	B-3
R2603	A-2	C2607	A-2	C3511	B-2
R2606	A-2	C2608	A-2	C3512	B-2
R3507	B-2	C2609	A-2	C3513	B-2
C2601	A-3	C2610	A-3	C3528	B-2
C2602	A-3	C2611	A-2	C3529	B-2
C2603	A-2	C2612	A-2		
C2604	A-2	C3504	B-2		

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

HEAD AMP C.B.A. VEPS5011Z1 (D,E,I)

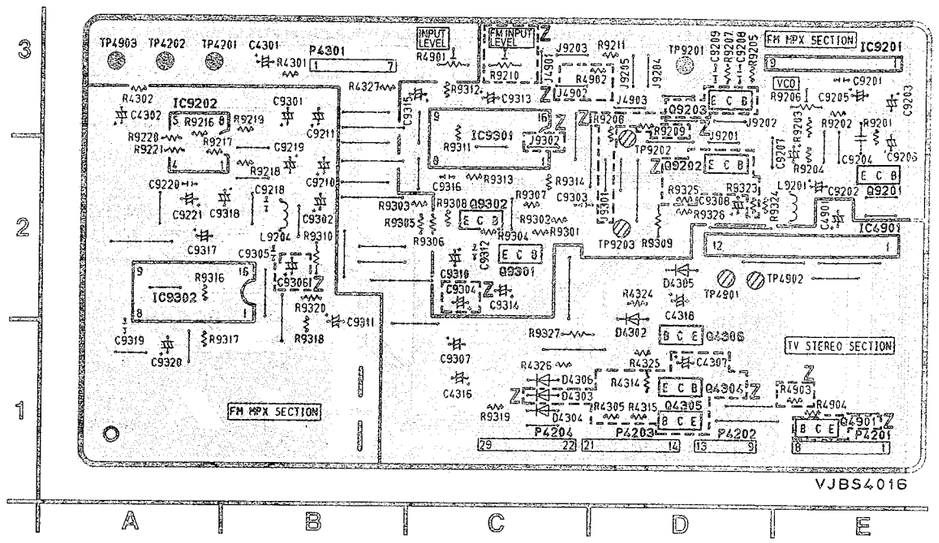


HEAD AMP	
IC	
IC2601	A-3
IC3501	B-2
CONNECTOR	
P3501	A-1
P3502	A-1
P3503	B-1
TEST POINT	
TP3501	B-1

LEADLESS COMPONENT PARTS LOCATION GUIDE
HEAD AMP C.B.A.

R2601	B-3	C2603	A-2	C3508	B-3
R2602	A-3	C2604	A-2	C3509	B-3
R2603	A-2	C2605	A-2	C3511	B-2
R2606	A-2	C2606	A-2	C3512	B-2
R3501	B-3	C2607	A-2	C3513	B-2
R3502	B-3	C2608	A-2	C3519	B-2
R3503	B-2	C2609	A-2	C3520	B-2
R3504	B-2	C2610	A-3	C3524	B-2
R3505	B-2	C2611	A-2	C3525	B-2
R3506	B-2	C2612	A-2	C3528	B-2
R3507	B-2	C3504	B-2	C3529	B-2
C2601	A-3	C3506	B-3	C3532	B-2
C2602	A-3	C3507	B-3	C3533	B-3

TV STEREO C.B.A. VEPS4016A1 (I)



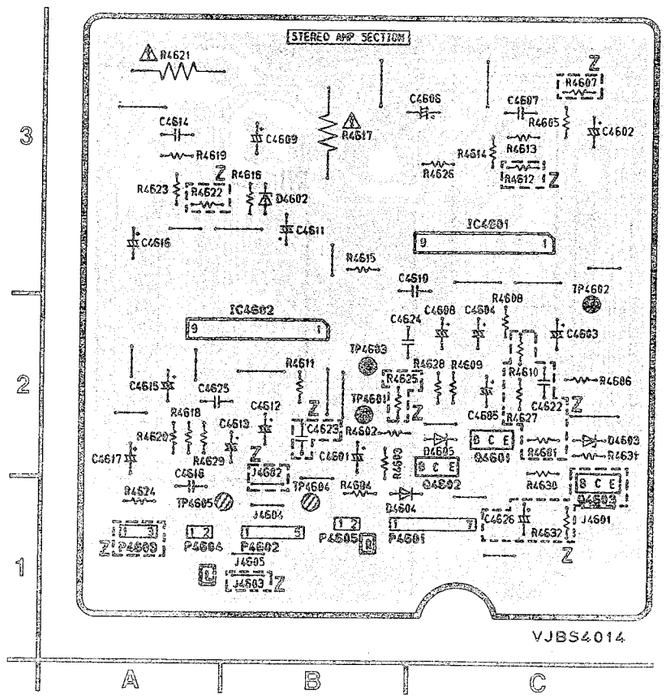
TV STEREO	
TRANSISTOR	
Q4304	D-1
Q4305	D-1
Q4306	D-1
Q4901	E-1
Q9201	E-2
Q9202	D-2
Q9203	D-3
Q9301	C-2
Q9302	C-2
IC	
IC4901	E-2
IC9201	E-3
IC9202	A-3
IC9301	C-3
IC9302	A-2

TV STEREO	
CONNECTOR	
P4201	E-1
P4202	D-1
P4203	D-1
P4204	C-1
P4301	B-3
TEST POINT	
TP4201	A-3
TP4202	A-3
TP4901	D-2
TP4902	D-2
TP4903	A-3
TP9201	D-3
TP9202	D-2
TP9203	D-2
ADJUSTMENT	
R4901	C-3
R9206	E-3
R9210	C-3

LEADLESS COMPONENT PARTS LOCATION GUIDE
TV STEREO C.B.A.

R4301	B-3	R9211	D-3	R9317	A-1
R4302	A-3	R9216	A-3	R9318	B-1
R4305	D-1	R9217	A-2	R9319	C-1
R4314	D-1	R9218	B-2	R9320	B-2
R4315	D-1	R9219	B-3	R9323	D-2
R4324	D-2	R9220	A-2	R9324	D-2
R4325	D-1	R9221	A-2	R9325	D-2
R4326	C-1	R9301	C-2	R9326	D-2
R4327	B-3	R9302	C-2	C9201	E-3
R4902	C-3	R9303	B-2	C9208	D-3
R4903	E-1	R9304	C-2	C9209	D-3
R4904	E-1	R9305	B-2	C9218	B-2
R9201	E-3	R9306	C-2	C9220	A-2
R9202	E-3	R9307	C-2	C9303	C-2
R9203	E-3	R9308	C-2	C9305	B-2
R9204	E-2	R9311	C-2	C9312	C-2
R9205	D-3	R9312	C-3	C9316	C-2
R9207	D-3	R9313	C-2	C9319	A-1
R9208	D-3	R9314	C-2		
R9209	D-3	R9316	A-2		

STEREO AMP C B.A VEPS4014A1 (I)



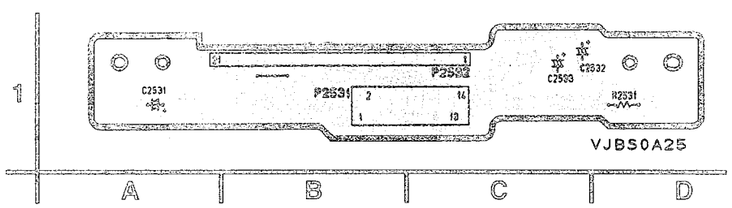
STEREO AMP	
TRANSISTOR	
Q4601	C-2
Q4602	C-1
Q4603	C-1
IC	
IC4601	C-3
IC4602	B-2
CONNECTOR	
P4601	B-1
P4602	B-1
P4603	A-1
P4604	A-1
P4605	B-1
TEST POINT	
TP4601	B-2
TP4602	C-3
TP4603	B-2
TP4604	B-1
TP4605	A-1

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART OF MODELS & MARKS

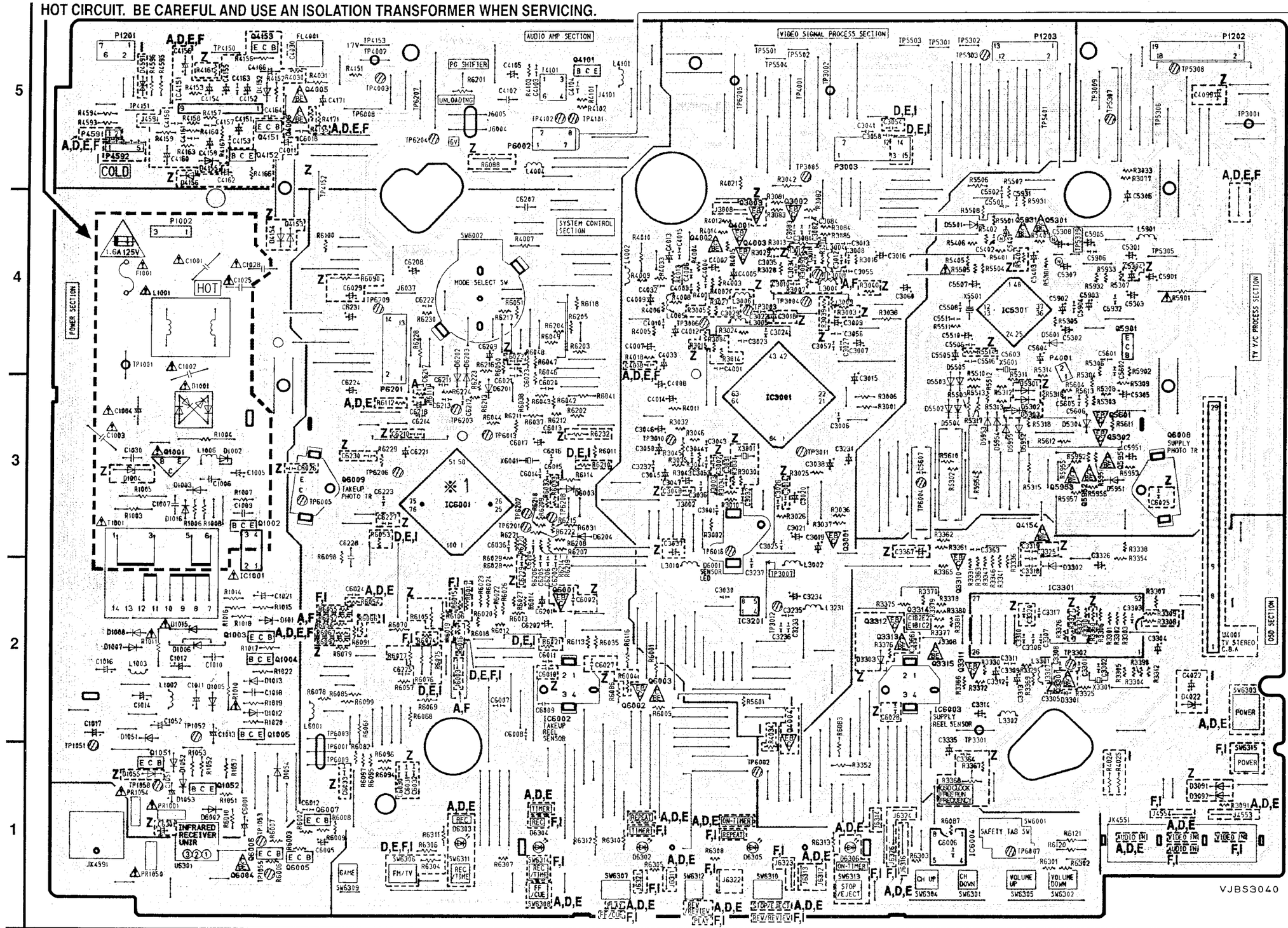
MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

JUNCTION C.B.A. VEPS0A25A



MAIN (POWER SUPPLY/SIGNAL PROCESS/OSD/AUDIO AMP/TV Y/C PROCESS/SYSTEM CONTROL/SERVO) C.B.A. VEPS3040E1 (A) /VEPS3040C1 (D,E) /VEPS3(
/VEPS3(

HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.



LOADING MOTOI

AUDIO CONT
HEAD P.C.B.

NOTE:
FOR SCHEMATIC D
REFER TO BEGINN

IMPORTANT SAFETY
COMPONENTS IDENT
SPECIAL CHARACTE
WHEN REPLACING A
USE ONLY THE SPE

※ 1 IC6001 repl

produ
MN675058
MN675058
MN675058

)40B1 (F)
)40A1 (I)

R P.C.B.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

TROL

)IAGRAM AND CIRCUIT BOARD LAYOUT NOTES.
IING OF SCHEMATIC SECTION.

' NOTICE:
'IFIED BY THE SIGN ⚠ HAVE
:RISTICS IMPORTANT FOR SAFETY.
:NY OF THESE COMPONENTS.
:CIFIED PARTS.

acement note:

cts	replacement parts
:A5P2 :A5P1 :A5P	MN675058A5P2

MAIN

TRANSISTOR

Q1001	A–3
Q1002	B–3
Q1003	B–2
Q1004	B–2
Q1005	B–2
Q1051	A–1
Q1052	B–1
Q3001	E–3
Q3002	E–4
Q3003	D–4
Q3301	F–2
Q3310	F–2
Q3311	F–2
Q3312	E–2
Q3313	E–2
Q3314	E–2
Q3315	E–2
Q4001	D–4
Q4002	D–4
Q4003	D–4
Q4004	E–2
Q4005	B–5
Q4006	B–5
Q4101	C–5
Q4151	B–5
Q4152	B–5
Q4153	B–5
Q4154	F–3
Q5301	F–4
Q5302	F–3
Q5601	F–3
Q5901	F–4
Q5931	F–4
Q5951	F–3
Q5952	F–3
Q5953	F–3
Q6001	C–2
Q6002	D–2
Q6003	D–2
Q6004	B–1
Q6005	B–1
Q6006	B–1
Q6007	B–1
Q6008	G–3
Q6009	B–3

MAIN

IC

IC1001	B–2
IC3001	D–3
IC3201	D–2
IC3301	F–2
IC4151	A–5
IC5301	F–4
IC6001	C–3
IC6002	C–2
IC6003	E–2
IC6004	F–1

MAIN

ADJUSTMENT

R3368	E–1
R6201	C–5

MAIN

CONNECTOR

P1002	A–4
P1201	A–5
P1202	G–5
P1203	F–5
P3003	E–5
P4001	F–4
P4591	A–5
P4592	A–5
P6002	C–5
P6201	B–3

MAIN

TEST POINT

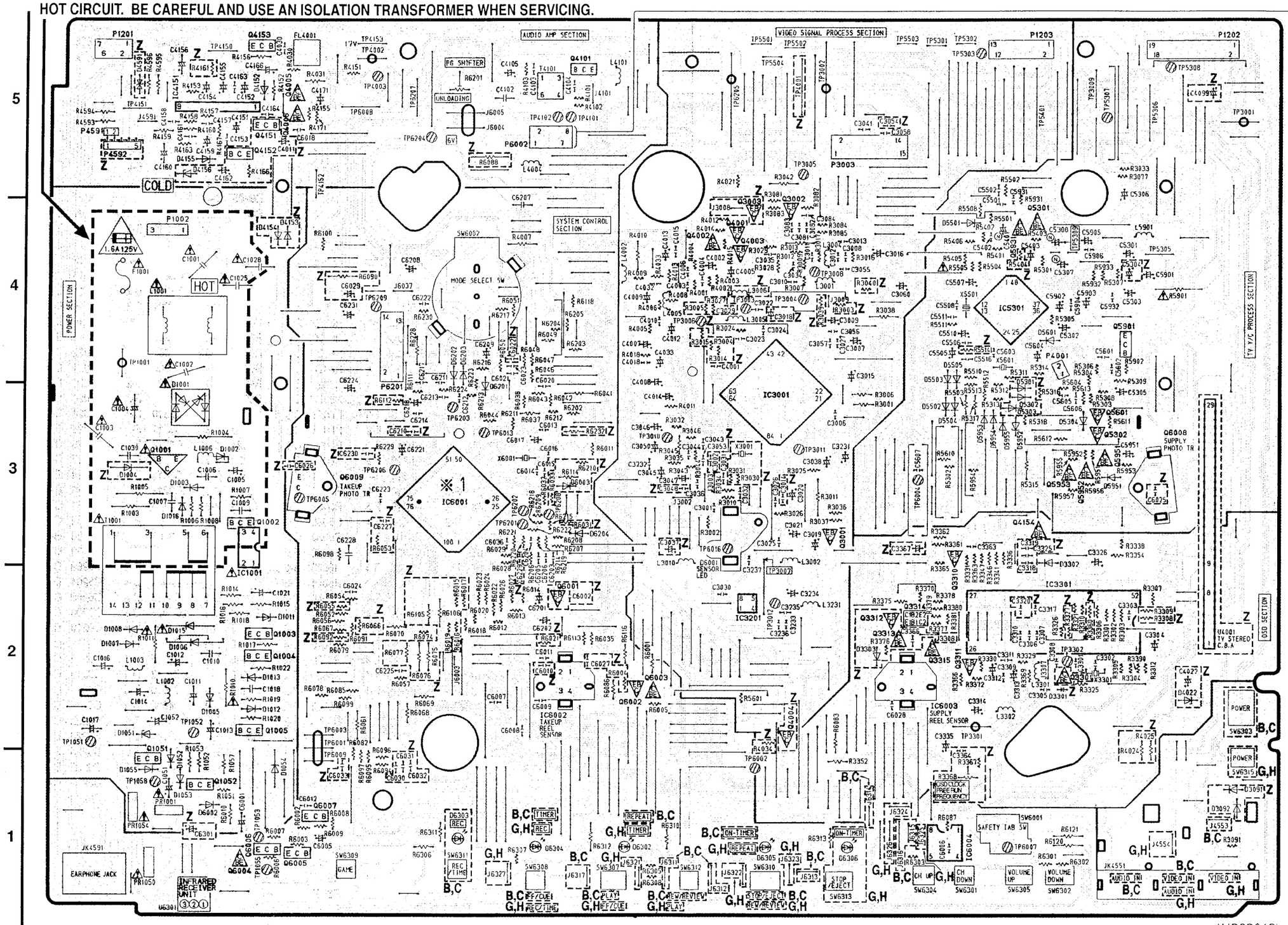
TP1001	A–4
TP1051	A–1
TP1052	A–2
TP1053	B–1
TP1055	B–1
TP1058	A–1
TP3001	G–5
TP3002	E–5
TP3003	D–4
TP3004	E–4
TP3005	E–5
TP3006	D–4
TP3007	E–2
TP3008	E–4
TP3009	F–5
TP3010	D–3
TP3011	E–3
TP3012	E–2
TP3301	F–2
TP3302	F–2
TP4001	E–5
TP4002	B–5
TP4003	B–5
TP4101	C–5
TP4102	C–5
TP4150	A–5
TP4151	A–5
TP4152	B–4
TP4153	B–5
TP5301	E–5
TP5302	E–5
TP5303	E–5
TP5306	G–5
TP5307	F–5
TP5308	G–5
TP5309	F–4
TP5401	F–5
TP5501	D–5
TP5502	E–5
TP5503	E–5
TP5504	D–5
TP6001	B–1
TP6002	D–1
TP6003	B–2
TP6004	E–3
TP6005	B–3
TP6007	F–1
TP6008	B–5
TP6009	B–1
TP6013	C–3
TP6016	D–3
TP6201	C–3
TP6202	C–3
TP6203	C–3
TP6204	C–5
TP6205	D–5
TP6206	B–3
TP6207	C–5
TP6208	C–3
TP6209	B–4

LEADLESS COMPONENT PARTS LOCATION GUIDE
MAIN C.B.A.

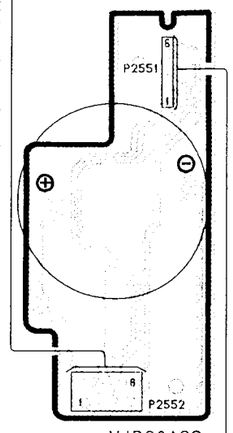
Q3001	E-3	R3081	D-4	R4021	D-5	R5954	F-3	R6096	B-1	C3041	E-5	C5602	F-3
Q3002	E-4	R3082	E-4	R4030	B-5	R5955	F-3	R6097	B-1	C3043	D-3	C5603	F-4
Q3003	D-4	R3083	D-4	R4033	D-4	R5956	F-3	R6098	B-3	C3044	D-3	C5605	F-3
Q3301	F-2	R3084	E-4	R4034	E-2	R5957	F-3	R6099	B-2	C3048	D-3	C5606	F-3
Q3310	F-2	R3085	E-4	R4101	D-5	R6002	B-1	R6100	B-4	C3053	D-3	C5607	E-3
Q3311	F-2	R3091	G-1	R4102	D-5	R6003	B-1	R6111	C-3	C3054	E-5	C5904	F-4
Q3312	E-2	R3301	F-2	R4103	C-5	R6004	D-2	R6112	B-3	C3055	E-4	C5906	F-4
Q3313	E-2	R3302	F-2	R4151	B-5	R6005	D-2	R6113	C-2	C3056	E-4	C5931	F-4
Q3314	E-2	R3303	F-2	R4153	A-5	R6006	B-1	R6118	C-4	C3057	E-4	C5932	F-4
Q3315	E-2	R3304	F-2	R4155	B-5	R6007	B-1	R6202	C-3	C3058	E-5	C6002	C-2
Q4001	D-4	R3305	F-2	R4157	A-5	R6008	B-1	R6203	C-4	C3081	E-4	C6006	E-1
Q4002	D-4	R3306	F-2	R4158	A-5	R6009	B-1	R6204	C-4	C3082	E-4	C6007	C-2
Q4003	D-4	R3307	G-2	R4160	A-5	R6011	D-3	R6205	C-4	C3083	E-4	C6008	C-2
Q4004	E-2	R3308	G-2	R4161	A-5	R6012	C-2	R6206	C-2	C3084	E-4	C6009	C-2
Q4005	B-5	R3309	G-2	R4163	A-5	R6013	C-2	R6207	C-3	C3232	D-3	C6010	C-2
Q4006	B-5	R3310	F-2	R4166	B-5	R6014	C-2	R6208	C-3	C3233	E-2	C6011	C-2
Q4154	F-3	R3312	G-2	R4167	B-5	R6015	C-2	R6209	C-3	C3235	E-2	C6012	B-1
Q5301	F-4	R3321	F-2	R4171	B-5	R6016	C-2	R6210	D-3	C3236	E-2	C6013	C-3
Q5302	F-3	R3325	F-2	R5301	F-4	R6017	C-2	R6211	C-3	C3237	D-2	C6014	C-3
Q5601	F-3	R3326	F-2	R5302	E-3	R6018	C-2	R6212	C-3	C3301	F-2	C6015	C-3
Q5931	F-4	R3327	F-2	R5303	F-3	R6019	C-2	R6213	C-3	C3302	F-2	C6016	C-3
Q5951	F-3	R3329	F-2	R5304	F-4	R6020	C-2	R6214	C-2	C3303	F-2	C6018	B-5
Q5952	F-3	R3330	F-2	R5305	F-4	R6021	C-2	R6215	C-3	C3305	F-2	C6020	C-3
Q5953	F-3	R3331	F-2	R5306	F-4	R6022	C-2	R6216	C-4	C3306	F-2	C6021	C-3
Q6001	C-2	R3336	F-2	R5307	F-4	R6023	C-2	R6217	C-4	C3307	F-2	C6022	C-4
Q6002	D-2	R3338	F-3	R5308	F-3	R6024	C-2	R6218	C-3	C3308	F-2	C6023	C-3
Q6003	D-2	R3341	F-2	R5309	F-3	R6026	C-2	R6219	C-2	C3310	F-2	C6024	B-2
Q6004	B-1	R3346	F-2	R5311	F-4	R6027	C-2	R6220	C-3	C3311	F-2	C6025	G-3
D3301	F-2	R3347	F-2	R5312	F-3	R6028	C-2	R6221	C-3	C3312	F-2	C6026	B-3
R1051	B-1	R3354	F-3	R5313	F-3	R6029	C-2	R6222	C-3	C3317	F-2	C6027	D-2
R3002	D-3	R3360	F-2	R5314	F-4	R6031	C-3	R6223	C-3	C3318	F-2	C6028	E-2
R3003	E-4	R3361	E-3	R5316	F-3	R6032	C-3	R6224	C-3	C3319	F-3	C6030	C-1
R3004	D-4	R3362	E-3	R5318	F-3	R6033	C-3	R6229	B-3	C3320	F-2	C6031	C-1
R3005	D-4	R3363	F-2	R5401	F-4	R6035	D-2	R6230	C-4	C3325	F-3	C6032	C-1
R3007	E-4	R3365	E-2	R5402	F-4	R6038	C-3	R6301	F-1	C3363	F-3	C6033	B-1
R3009	E-4	R3366	F-2	R5403	F-4	R6042	C-3	R6302	F-1	C3364	F-1	C6036	C-3
R3010	D-3	R3367	F-1	R5404	F-4	R6043	C-3	R6303	E-1	C3366	E-2	C6203	C-2
R3012	E-4	R3369	F-2	R5405	E-4	R6044	C-3	R6305	D-1	C4001	D-4	C6204	C-2
R3014	D-4	R3370	E-2	R5406	E-4	R6046	C-4	R6307	C-1	C4003	D-4	C6205	C-2
R3015	D-4	R3372	F-2	R5501	F-4	R6047	C-4	R6308	D-1	C4004	D-4	C6206	C-2
R3016	E-4	R3375	E-2	R5502	F-5	R6048	C-4	C3001	D-3	C4006	D-4	C6210	B-3
R3017	E-4	R3376	E-2	R5504	F-4	R6049	C-4	C3002	D-3	C4010	D-4	C6211	C-3
R3024	D-4	R3377	E-2	R5505	E-4	R6050	C-4	C3006	E-3	C4015	D-4	C6212	C-3
R3025	E-3	R3378	E-2	R5508	F-4	R6051	C-4	C3008	E-4	C4018	D-4	C6213	C-3
R3026	E-3	R3379	E-2	R5510	F-4	R6052	B-2	C3010	E-4	C4030	B-5	C6214	C-3
R3027	D-4	R3380	E-2	R5511	E-4	R6053	B-3	C3011	E-4	C4032	D-4	C6217	C-3
R3028	D-4	R3381	E-2	R5512	F-3	R6054	B-2	C3012	E-4	C4103	C-5	C6222	C-4
R3029	D-4	R3390	F-2	R5513	F-3	R6055	B-2	C3013	E-4	C4104	C-5	C6223	B-3
R3030	D-3	R4001	D-4	R5514	F-4	R6056	B-2	C3014	E-3	C4153	B-5	C6225	B-2
R3031	D-3	R4002	D-4	R5601	D-2	R6057	B-2	C3022	D-4	C4157	A-5	C6227	B-3
R3032	D-3	R4003	D-4	R5604	F-3	R6066	B-2	C3023	D-4	C4158	A-5	C6229	C-2
R3033	F-5	R4004	D-4	R5610	E-3	R6067	B-2	C3024	D-4	C4161	A-5	C6230	B-3
R3034	D-3	R4005	D-4	R5611	F-3	R6074	C-2	C3025	D-3	C4163	B-5		
R3035	D-3	R4006	D-4	R5612	F-3	R6078	B-2	C3026	E-3	C4164	B-5		
R3036	E-3	R4008	D-4	R5613	F-3	R6079	B-2	C3027	E-4	C5402	F-4		
R3037	E-3	R4009	D-4	R5902	F-4	R6082	B-1	C3029	D-4	C5501	F-4		
R3039	E-4	R4011	D-3	R5931	F-4	R6085	B-2	C3030	D-2	C5502	F-4		
R3040	E-4	R4012	D-4	R5932	F-4	R6087	E-1	C3031	D-3	C5506	E-4		
R3043	D-3	R4013	D-4	R5933	F-4	R6091	B-2	C3032	D-3	C5508	E-4		
R3044	D-3	R4014	D-4	R5951	F-3	R6092	B-2	C3034	E-4	C5511	E-4		
R3046	D-3	R4015	D-4	R5952	F-3	R6094	B-1	C3035	D-4	C5516	F-4		
R3077	F-5	R4018	D-4	R5953	F-3	R6095	B-1	C3036	D-3	C5601	F-4		

MAIN (POWER SUPPLY / SIGNAL PROCESS / OSD / AUDIO AMP / TV Y/C PROCESS / SYSTEM CONTROL / SERVO) C.B.A. VEPS3042B1 (B,C) / VEPS3042A1 (G,H)

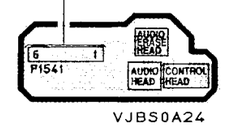
HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.



LOADING MOTOR P.C.B.



AUDIO CONTROL HEAD P.C.B.



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD I
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SPECIFIED PARTS.

※ 1 IC6001 replacement note:

products	replacement parts
MN675058A5P2 MN675058A5P1 MN675058A5P	MN675058A5P2

:042A1 (G,H)

)R P.C.B.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

ITROL

IC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
GINNING OF SCHEMATIC SECTION.

TY NOTICE:
NTIFIED BY THE SIGN ⚠ HAVE
TERISTICS IMPORTANT FOR SAFETY.
ANY OF THESE COMPONENTS.
PECIFIED PARTS.

placement note:

ucts	replacement parts
58A5P2 58A5P1 58A5P	MN675058A5P2

MAIN

TRANSISTOR

Q1001	A-3
Q1002	B-3
Q1003	B-2
Q1004	B-2
Q1005	B-2
Q1051	A-1
Q1052	B-1
Q3001	E-3
Q3002	E-4
Q3003	D-4
Q3301	F-2
Q3310	F-2
Q3311	F-2
Q3312	E-2
Q3313	E-2
Q3314	E-2
Q3315	E-2
Q4001	D-4
Q4002	D-4
Q4003	D-4
Q4004	E-2
Q4005	B-5
Q4006	B-5
Q4101	C-5
Q4151	B-5
Q4152	B-5
Q4153	B-5
Q4154	F-3
Q5301	F-3
Q5302	F-3
Q5601	F-3
Q5901	F-4
Q5931	F-4
Q5951	F-3
Q5952	F-3
Q5953	F-3
Q6001	C-2
Q6002	D-2
Q6003	D-2
Q6004	B-1
Q6005	B-1
Q6006	B-1
Q6007	B-1
Q6008	G-3
Q6009	B-3

MAIN

IC

IC1001	B-2
IC3001	D-3
IC3201	D-2
IC3301	F-2
IC4151	A-5
IC5301	F-4
IC6001	C-3
IC6002	C-2
IC6003	E-2
IC6004	F-1

MAIN

ADJUSTMENT

R3368	E-1
R6201	C-5

MAIN

CONNECTOR

P1002	A-4
P1201	A-5
P1202	G-5
P1203	F-5
P3003	E-5
P4001	F-4
P4591	A-5
P4592	A-5
P6002	C-5
P6201	B-3

MAIN

TEST POINT

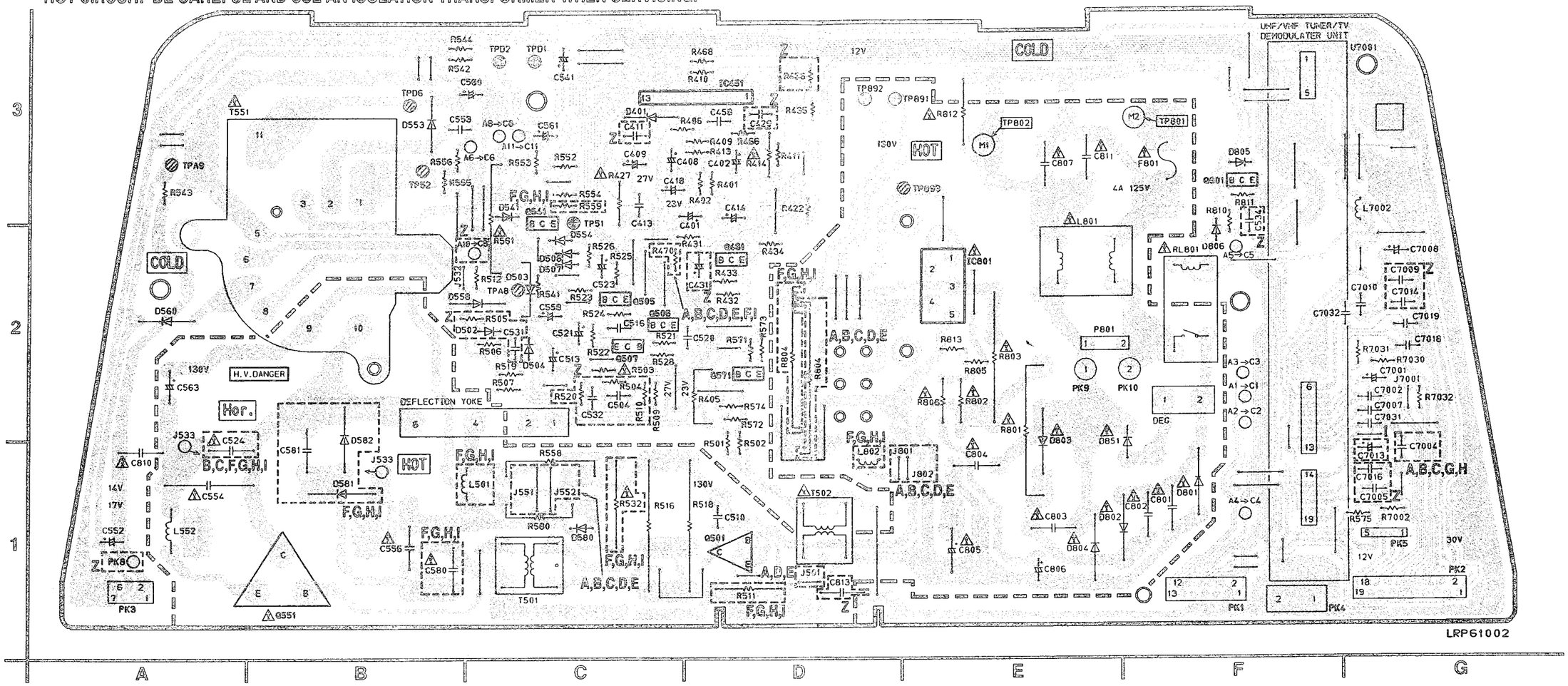
TP1001	A-4
TP1051	A-1
TP1052	A-2
TP1053	B-1
TP1055	B-1
TP1058	A-1
TP3001	G-5
TP3002	E-5
TP3003	D-4
TP3004	E-4
TP3005	E-5
TP3006	D-4
TP3007	E-2
TP3008	E-4
TP3009	F-5
TP3010	D-3
TP3011	E-3
TP3012	E-2
TP3301	F-2
TP3302	F-2
TP4001	E-5
TP4002	B-5
TP4003	B-5
TP4101	C-5
TP4102	C-5
TP4150	A-5
TP4151	A-5
TP4152	B-5
TP4153	B-5
TP5301	E-5
TP5302	F-5
TP5303	E-5
TP5306	G-5
TP5307	F-5
TP5308	G-5
TP5309	F-4
TP5401	F-5
TP5501	D-5
TP5502	E-5
TP5503	E-5
TP5504	D-5
TP6001	B-2
TP6002	D-1
TP6003	B-2
TP6004	E-3
TP6005	B-3
TP6007	F-1
TP6008	B-5
TP6009	B-1
TP6013	C-3
TP6016	D-3
TP6201	C-3
TP6202	C-3
TP6203	C-3
TP6204	C-5
TP6205	D-5
TP6206	B-3
TP6207	C-5
TP6208	C-3
TP6209	B-4

LEADLESS COMPONENT PARTS LOCATION GUIDE
MAIN C.B.A.

Q3001	E-3	R3081	D-5	R4021	D-5	R5954	F-3	R6096	B-1	C3041	E-5	C5602	F-4
Q3002	E-4	R3082	E-3	R4030	B-5	R5955	F-3	R6097	B-1	C3043	D-3	C5603	F-4
Q3003	D-4	R3083	D-4	R4033	D-4	R5956	F-3	R6098	B-3	C3044	D-3	C5605	F-3
Q3301	F-2	R3084	E-4	R4034	D-2	R5957	F-3	R6099	B-2	C3048	D-3	C5606	F-3
Q3310	F-2	R3085	E-4	R4101	D-5	R6002	B-1	R6100	B-4	C3053	D-3	C5607	E-3
Q3311	F-2	R3091	G-1	R4102	D-5	R6003	B-1	R6111	C-3	C3054	E-5	C5904	F-4
Q3312	E-2	R3301	F-2	R4103	C-5	R6004	D-2	R6112	B-3	C3055	E-4	C5906	F-4
Q3313	E-2	R3302	F-2	R4151	B-5	R6005	D-2	R6113	C-2	C3056	E-4	C5931	F-5
Q3314	E-2	R3303	F-2	R4153	A-5	R6006	B-1	R6118	C-4	C3057	E-4	C5932	F-4
Q3315	E-2	R3304	F-2	R4155	B-5	R6007	B-1	R6202	C-3	C3058	E-5	C6002	C-2
Q4001	D-4	R3305	F-2	R4157	A-5	R6008	B-1	R6203	C-4	C3081	E-4	C6006	E-1
Q4002	D-4	R3306	F-2	R4158	A-5	R6009	B-1	R6204	C-3	C3082	E-4	C6007	C-2
Q4003	D-4	R3307	G-2	R4160	A-5	R6011	D-3	R6205	C-3	C3083	E-4	C6008	C-2
Q4004	E-2	R3308	G-2	R4161	A-5	R6012	C-2	R6206	B-3	C3084	E-3	C6009	C-2
Q4005	B-5	R3309	G-2	R4163	A-5	R6013	C-2	R6207	C-3	C3232	D-3	C6010	C-2
Q4006	B-5	R3310	F-2	R4166	B-5	R6014	C-2	R6208	C-3	C3233	E-2	C6011	C-2
Q4154	F-3	R3312	G-2	R4167	B-5	R6015	C-2	R6209	C-3	C3235	E-2	C6012	B-1
Q5301	F-3	R3321	F-2	R4171	B-5	R6016	C-2	R6210	D-3	C3236	E-2	C6013	C-3
Q5302	F-3	R3325	F-2	R5301	F-4	R6017	C-2	R6211	C-3	C3237	D-2	C6014	C-3
Q5601	F-3	R3326	F-2	R5302	E-3	R6018	C-2	R6212	C-3	C3301	F-2	C6015	C-3
Q5931	F-4	R3327	F-2	R5303	F-3	R6019	C-2	R6213	C-3	C3302	F-2	C6016	C-3
Q5951	F-3	R3329	F-2	R5304	F-4	R6020	C-2	R6214	C-2	C3303	F-2	C6018	B-5
Q5952	F-3	R3330	F-2	R5305	F-4	R6021	C-2	R6215	C-3	C3305	F-2	C6020	C-4
Q5953	F-3	R3331	F-2	R5306	F-4	R6022	C-2	R6216	C-4	C3306	F-2	C6021	C-4
Q6001	C-2	R3336	F-2	R5307	F-4	R6023	C-2	R6217	C-4	C3307	F-2	C6022	C-4
Q6002	D-2	R3338	F-3	R5308	F-3	R6024	C-2	R6218	C-3	C3308	F-2	C6023	C-4
Q6003	D-2	R3341	F-2	R5309	F-4	R6026	C-2	R6219	C-2	C3310	F-2	C6024	B-2
Q6004	B-1	R3346	F-2	R5311	F-4	R6027	C-2	R6220	C-3	C3311	F-2	C6025	G-3
D3301	F-2	R3347	F-2	R5312	F-3	R6028	C-2	R6221	C-3	C3312	F-2	C6026	B-3
R1051	B-1	R3354	F-3	R5313	F-3	R6029	C-3	R6222	C-3	C3317	F-2	C6027	D-2
R3002	D-3	R3360	F-2	R5314	F-4	R6031	C-3	R6223	C-3	C3318	F-3	C6028	E-2
R3003	E-4	R3361	E-3	R5316	F-3	R6032	C-3	R6224	C-3	C3319	F-3	C6030	B-1
R3004	D-4	R3362	E-3	R5318	F-3	R6033	C-3	R6229	B-3	C3320	F-2	C6031	C-1
R3005	D-4	R3363	F-2	R5401	F-4	R6035	D-2	R6230	C-4	C3325	F-3	C6032	C-1
R3007	E-4	R3365	E-2	R5402	F-4	R6038	C-3	R6301	F-1	C3363	F-3	C6033	B-1
R3009	E-4	R3366	F-2	R5403	F-4	R6042	C-3	R6302	F-1	C3364	F-1	C6036	C-3
R3010	D-3	R3367	F-1	R5404	F-4	R6043	C-3	R6303	E-1	C3366	E-2	C6203	C-2
R3012	E-4	R3369	F-2	R5405	E-4	R6044	C-3	R6305	D-1	C4001	D-4	C6204	C-3
R3014	D-4	R3370	E-2	R5406	E-4	R6046	C-4	R6307	C-1	C4003	D-4	C6205	C-2
R3015	D-4	R3372	F-2	R5501	F-4	R6047	C-4	R6308	D-1	C4004	D-4	C6206	C-2
R3016	E-4	R3375	E-2	R5502	F-5	R6048	C-4	C3001	D-3	C4006	D-4	C6210	B-3
R3017	E-4	R3376	E-2	R5504	F-4	R6049	C-4	C3002	D-3	C4010	D-4	C6211	C-4
R3024	D-4	R3377	E-2	R5505	E-4	R6050	C-4	C3006	E-3	C4015	D-4	C6212	C-3
R3025	E-3	R3378	E-2	R5508	F-4	R6051	C-4	C3008	E-4	C4018	D-4	C6213	C-3
R3026	E-3	R3379	E-2	R5510	F-4	R6052	B-2	C3010	E-4	C4030	B-5	C6214	C-3
R3027	D-4	R3380	E-2	R5511	E-4	R6053	B-3	C3011	E-4	C4032	D-4	C6217	C-4
R3028	D-4	R3381	E-2	R5512	F-3	R6054	B-2	C3012	E-4	C4103	C-5	C6222	C-4
R3029	D-4	R3390	F-2	R5513	F-3	R6055	B-2	C3013	E-4	C4104	C-4	C6223	B-3
R3030	D-3	R4001	D-4	R5514	F-4	R6056	B-2	C3014	E-3	C4153	B-5	C6225	B-2
R3031	D-3	R4002	D-4	R5601	D-2	R6057	B-2	C3022	D-4	C4157	B-5	C6227	B-3
R3032	D-3	R4003	D-4	R5604	F-4	R6066	B-2	C3023	D-4	C4158	A-5	C6229	C-2
R3033	F-5	R4004	D-4	R5610	E-3	R6067	B-2	C3024	E-4	C4161	A-5	C6230	B-3
R3034	D-3	R4005	D-4	R5611	F-3	R6074	C-2	C3025	D-3	C4163	B-5		
R3035	D-3	R4006	D-4	R5612	F-3	R6078	B-2	C3026	E-3	C4164	B-5		
R3036	E-3	R4008	D-4	R5613	F-3	R6079	B-2	C3027	E-4	C5402	F-4		
R3037	E-3	R4009	D-4	R5902	F-5	R6082	B-2	C3029	D-4	C5501	F-4		
R3039	E-4	R4011	D-3	R5931	F-5	R6085	B-2	C3030	D-2	C5502	F-5		
R3040	E-4	R4012	D-4	R5932	F-4	R6087	E-1	C3031	D-3	C5506	E-4		
R3043	D-3	R4013	D-4	R5933	F-4	R6091	B-2	C3032	D-3	C5508	E-4		
R3044	D-3	R4014	D-4	R5951	F-3	R6092	B-2	C3034	E-4	C5511	E-4		
R3046	D-3	R4015	D-4	R5952	F-3	R6094	B-1	C3035	D-4	C5516	F-4		
R3077	F-5	R4018	D-4	R5953	F-3	R6095	B-1	C3036	D-3	C5601	F-4		

TV MAIN C.B.A. LRM61002XZ (A) /LRM61002ZZ (B) /LRM61002ZA (C) /LRM61002YZ (D) /LRM61002YA (E) /LRM61002BZ (F) /LRM61002CZ (G) /LRM61002CA (H) /LRM61002AZ (I)

HOT CIRCUIT. BE CAREFUL AND USE AN ISOLATION TRANSFORMER WHEN SERVICING.



TV MAIN	
TRANSISTOR	
Q431	D-2
Q501	D-1
Q505	C-2
Q506	C-2
Q507	C-2
Q541	C-3
Q551	B-1
Q571	D-2
Q801	F-3
IC	
IC451	D-3
IC801	E-2

TV MAIN	
CONNECTOR	
A1	F-2
A2	F-2
A3	F-2
A4	F-1
A5	F-2
A6	C-3
A8	C-3
A10	B-2
A11	C-3
P801	E-2
PK1	F-1
PK2	G-1
PK3	A-1
PK4	F-1
PK5	G-1

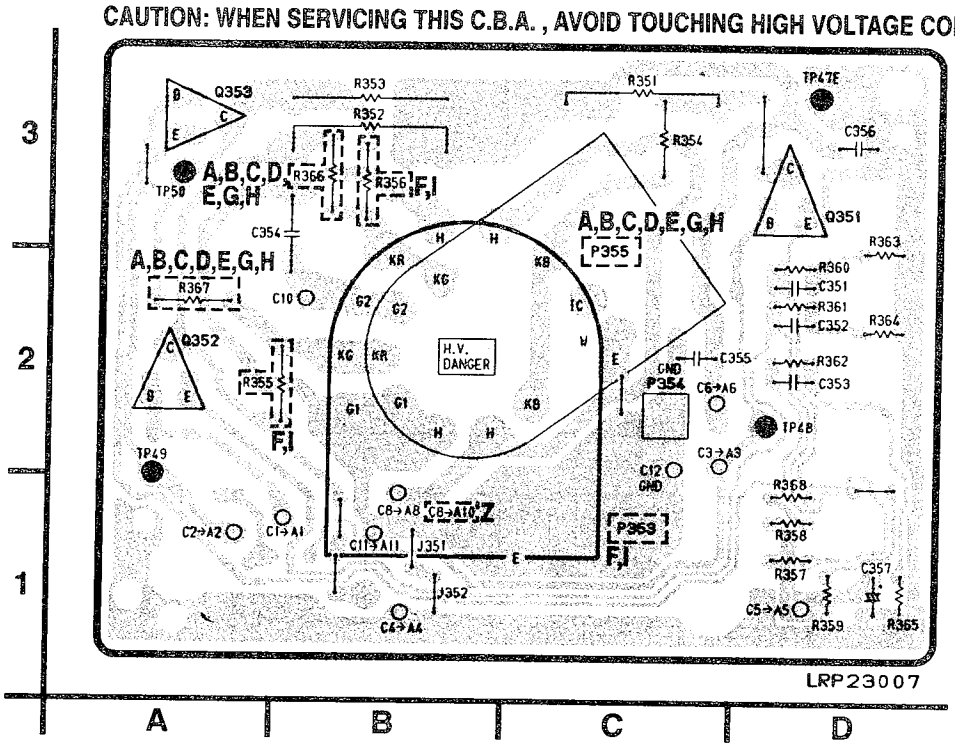
TV MAIN	
TEST POINT	
TP51	C-3
TP52	B-3
TP801	F-3
TP802	E-3
TP891	E-3
TP892	D-3
TP893	D-3
TPA8	C-2
TPA9	A-3
TPD1	C-3
TPD2	C-3
TPD6	B-3

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

CRT C.B.A LRP23007YZ (A,D,E) /LRP23007ZZ (B,C) /LRP23007AZ (F,I) /LRP23007BZ (G,H)

CAUTION: WHEN SERVICING THIS C.B.A. , AVOID TOUCHING HIGH VOLTAGE COMPONENTS.



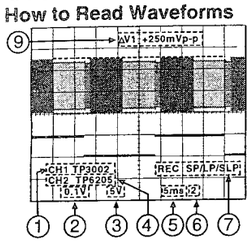
CRT	
TRANSISTOR	
Q351	D–3
Q352	A–2
Q353	A–3
CONNECTOR	
C1	B–1
C2	A–1
C3	C–2
C4	B–1
C5	D–1
C6	C–2
C8	B–1
C10	B–2
C11	B–1
C12	C–2
P353	C–1
P354	C–2
P355	C–3
TEST POINT	
TP47E	D–3
TP48	D–2
TP49	A–2
TP50	A–3

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z

SIGNAL WAVEFORM

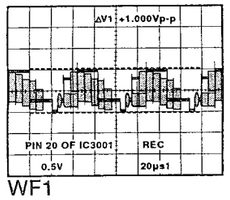
How to Read Waveforms



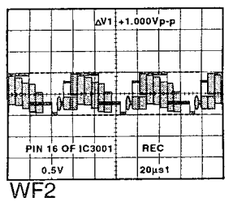
WF1 ← ⑧

① Connecting Point
② Volts/Div
③ Volts/Div
④ Connecting Point
⑤ Time/Div
⑥ Trigger Channel of the scope (1:CH1,2:CH2)
⑦ Operation Mode of VCR
⑧ Waveform Point on Schematic
⑨ ΔV1:Peak to Peak

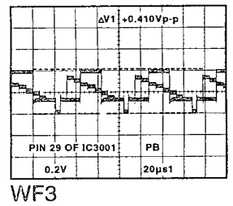
MAIN C.B.A.



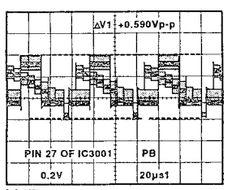
WF1



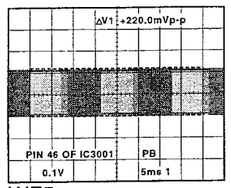
WF2



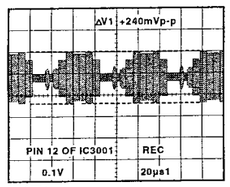
WF3



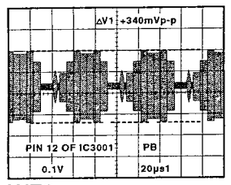
WF4



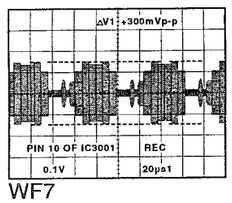
WF5



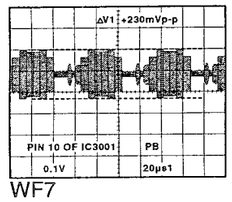
WF6



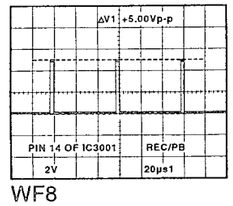
WF6



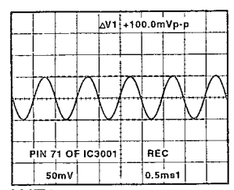
WF7



WF7



WF8



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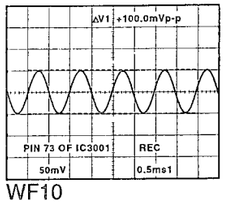
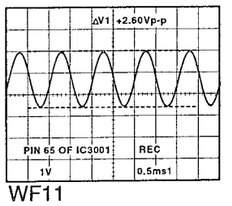


WF10



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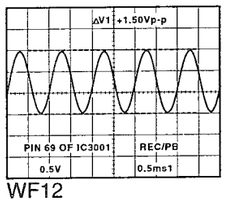

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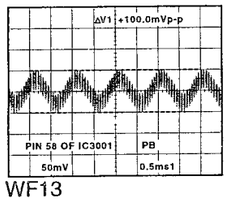

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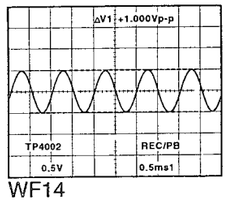

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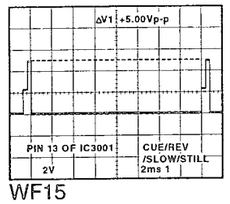
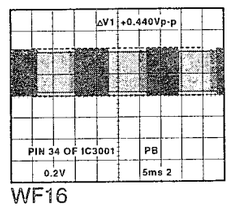


WF15



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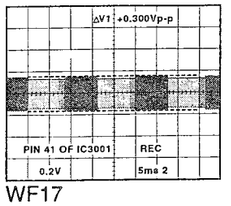
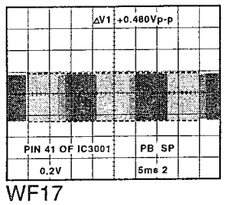
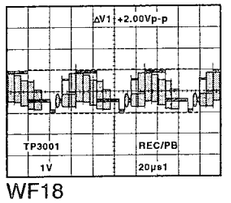


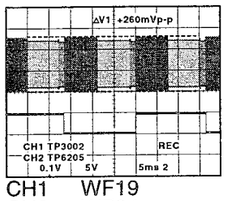
WF17



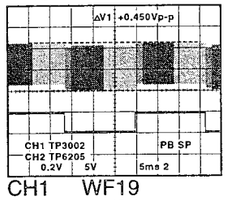
WF17



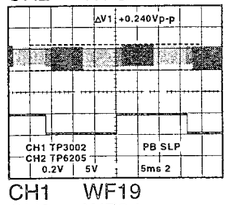
WF18



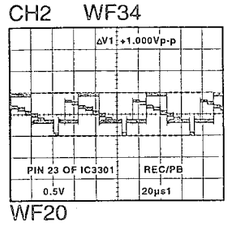
CH1 WF19
CH2 WF34



CH1 WF19
CH2 WF34



CH1 WF19
CH2 WF34



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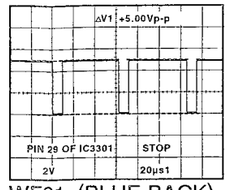
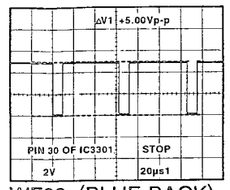
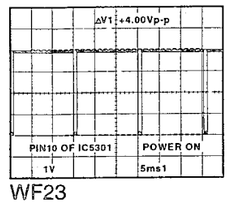


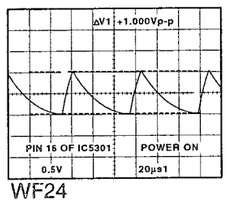
WF21 (BLUE BACK)



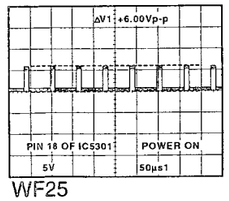
WF22 (BLUE BACK)



WF23



WF24



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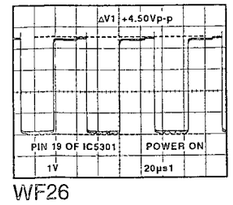
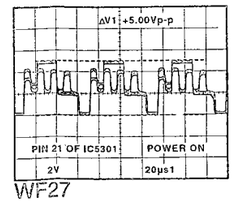
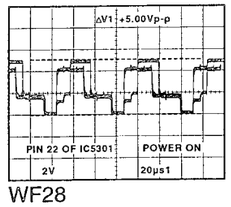


WF26



WF27



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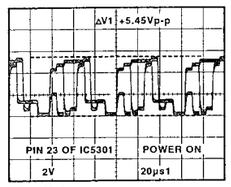

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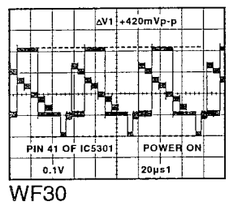

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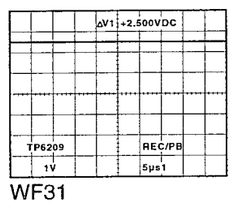
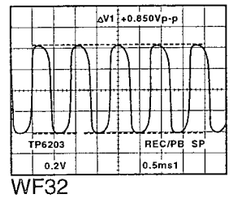


WF31



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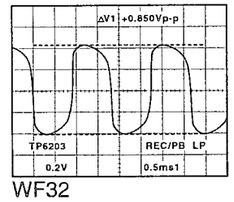

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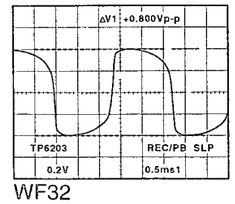
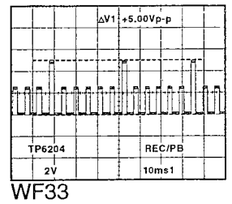


WF32



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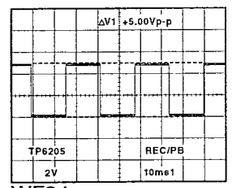
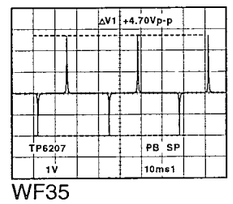
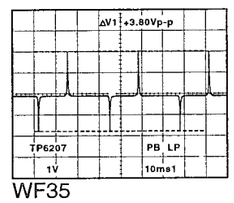


WF34



WF35



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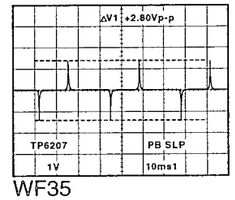
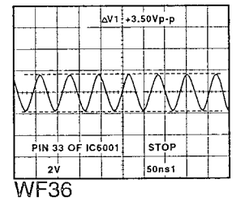
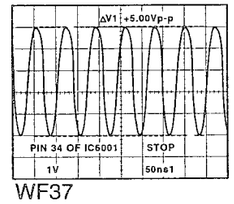


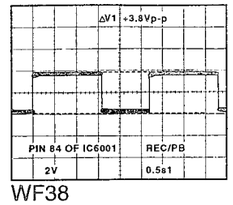
WF35



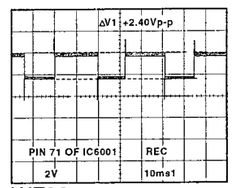
WF36



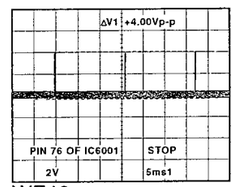
WF37



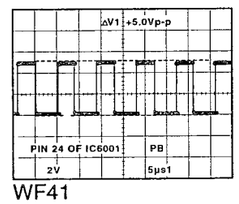
WF38



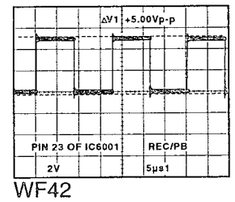
WF39



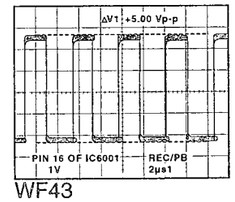
WF40



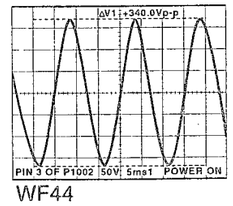
WF41



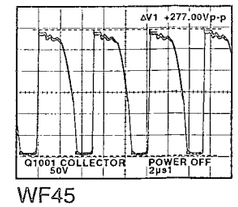
WF42



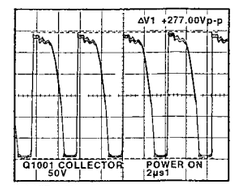
WF43



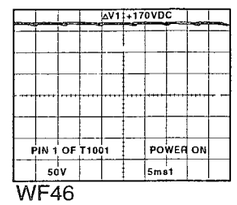
WF44



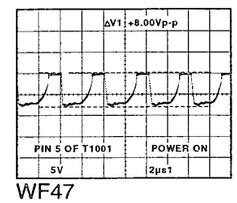
WF45



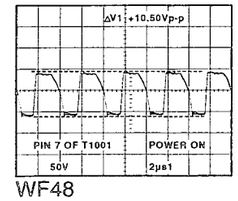
WF45



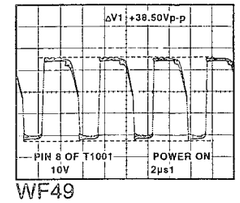
WF46



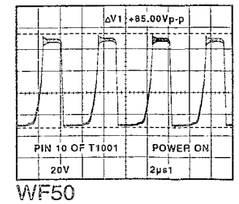
WF47



WF48

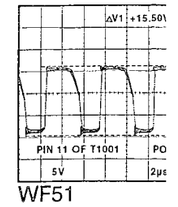


WF49

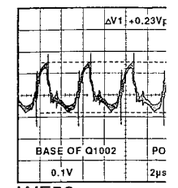


WF50

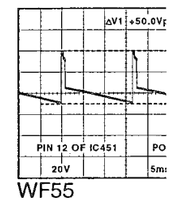
TV MAIN C.B.A



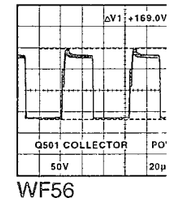
WF51



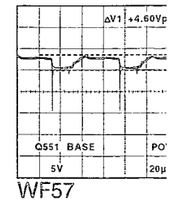
WF52



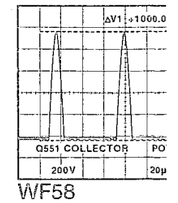
WF55



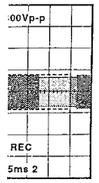
WF56

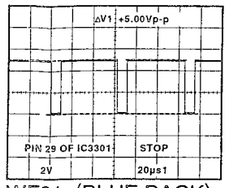


WF57

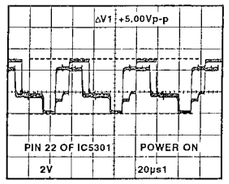


WF58

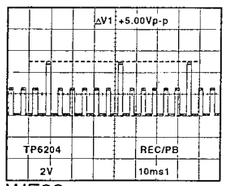




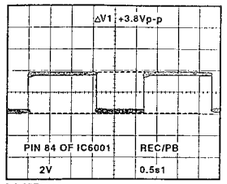
WF21 (BLUE BACK)



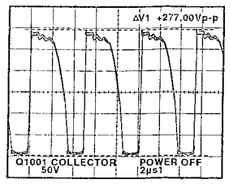
WF28



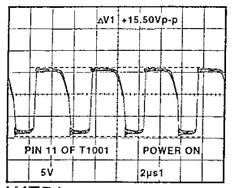
WF33



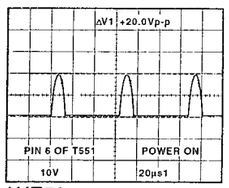
WF38



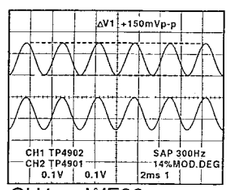
WF45



WF51

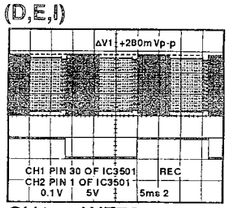


WF59

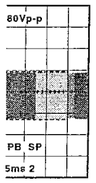


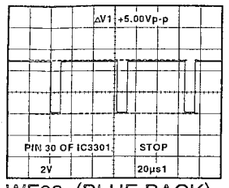
CH1 WF66
CH2 WF67

HEAD AMP C.B.A.
(D,E,I)

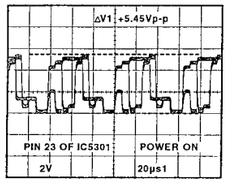


CH1 WF73
CH2 WF74

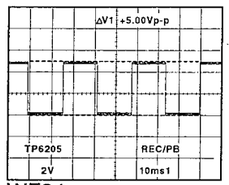




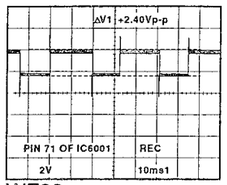
WF22 (BLUE BACK)



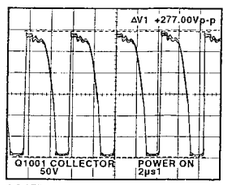
WF29



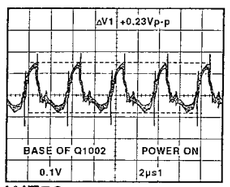
WF34



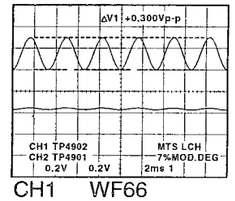
WF39



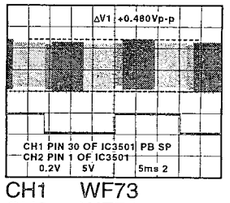
WF45



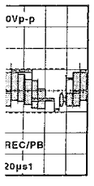
WF52

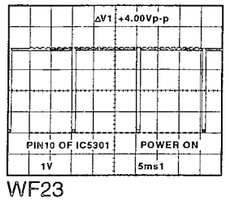


CH1 WF66
CH2 WF67

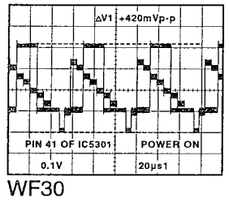


CH1 WF73
CH2 WF74

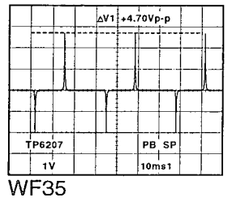




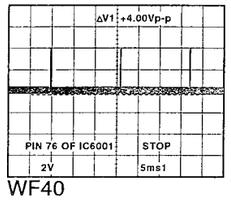
WF23



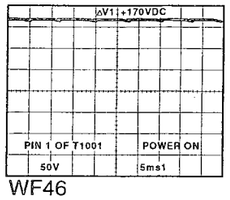
WF30



WF35

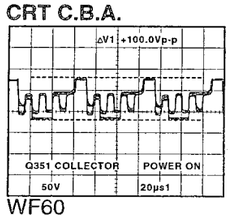


WF40

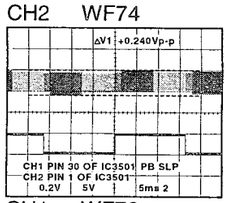


WF46

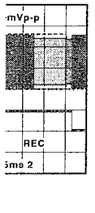
CRT C.B.A.

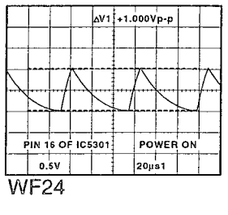


WF60

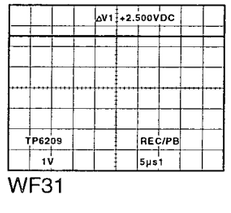


CH1 WF73
CH2 WF74

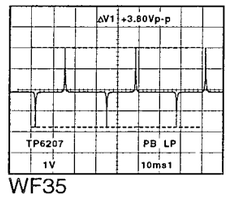




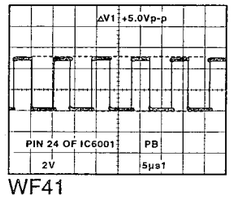
WF24



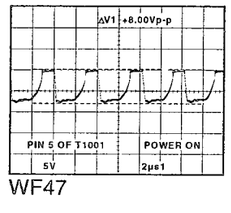
WF31



WF35

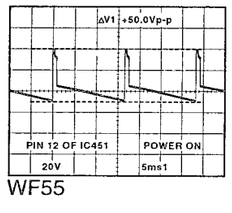


WF41

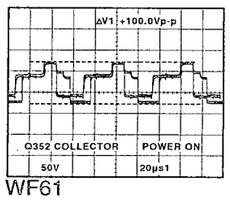


WF47

TV MAIN C.B.A.

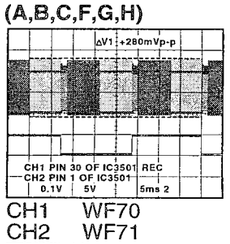


WF55

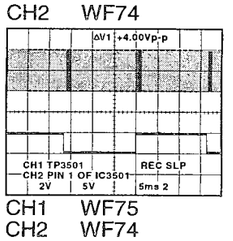


WF61

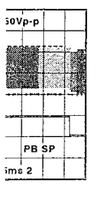
HEAD AMP C.B.A.
(A,B,C,F,G,H)

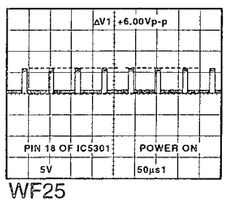


CH1 WF70
CH2 WF71

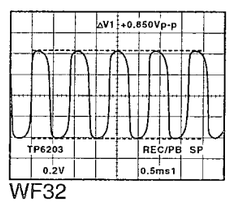


CH1 WF75
CH2 WF74

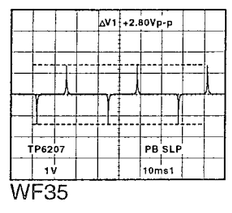




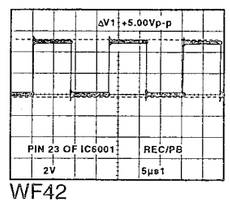
WF25



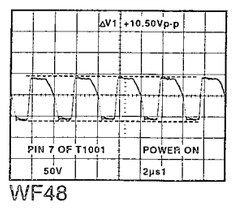
WF32



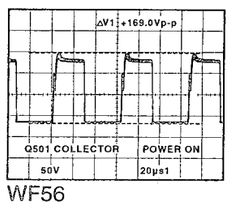
WF35



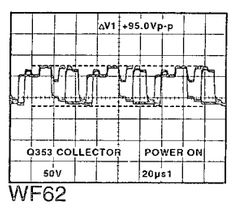
WF42



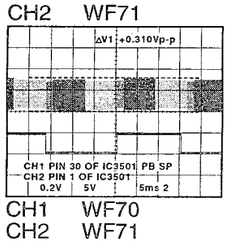
WF48



WF56



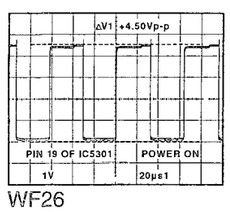
WF62



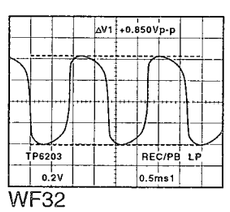
CH1 WF70
CH2 WF71

COMPARISON CHART
OF MODELS & MARKS

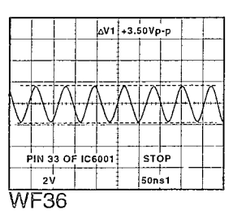
MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-2037	F
VV2007	G
VV2017W	H
PV-M2047	I
Not Used	Z



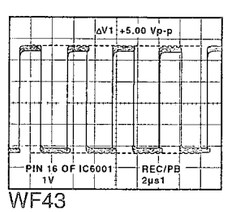
WF26



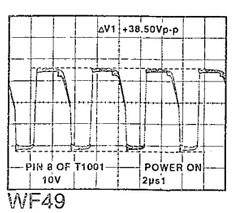
WF32



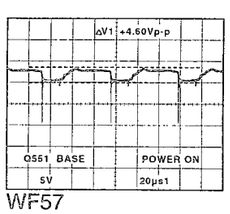
WF36



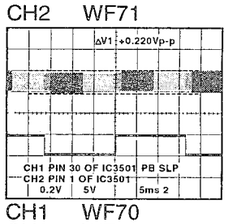
WF43



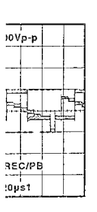
WF49

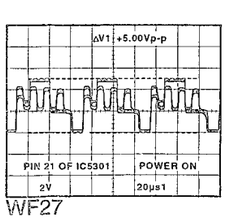


WF57

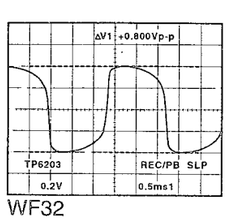


CH1 WF70
CH2 WF71

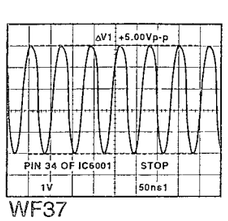




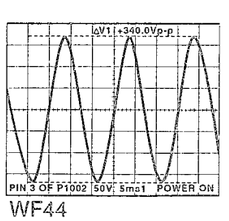
WF27



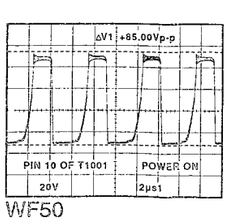
WF32



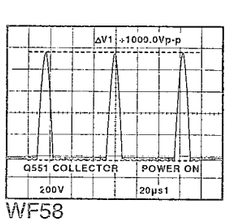
WF37



WF44

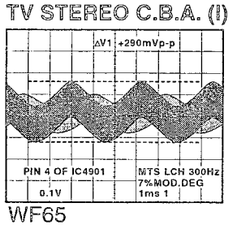


WF50

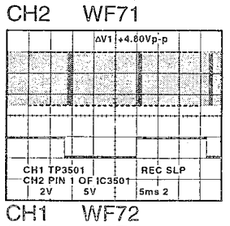


WF58

TV STEREO C.B.A. (I)



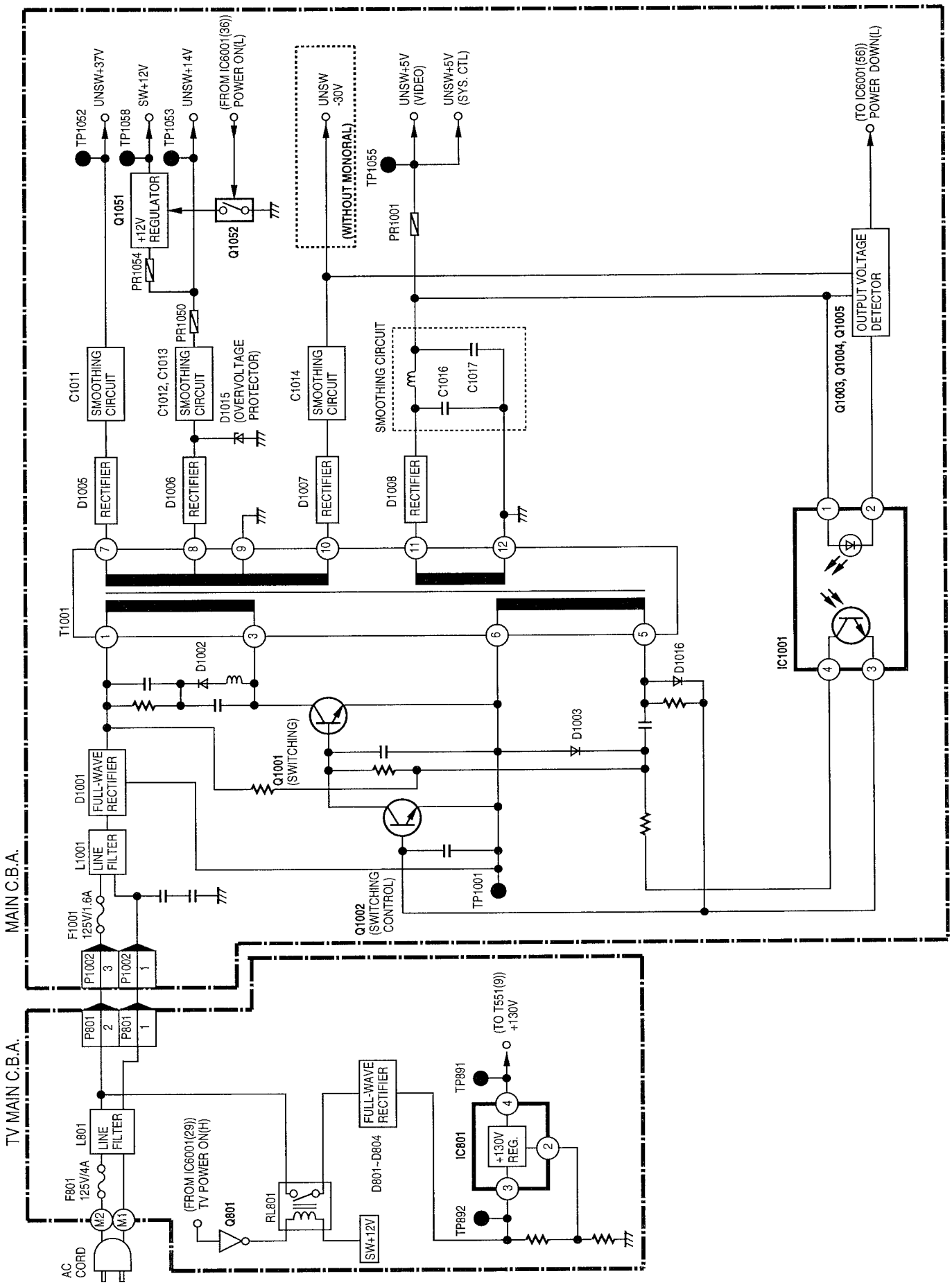
WF65



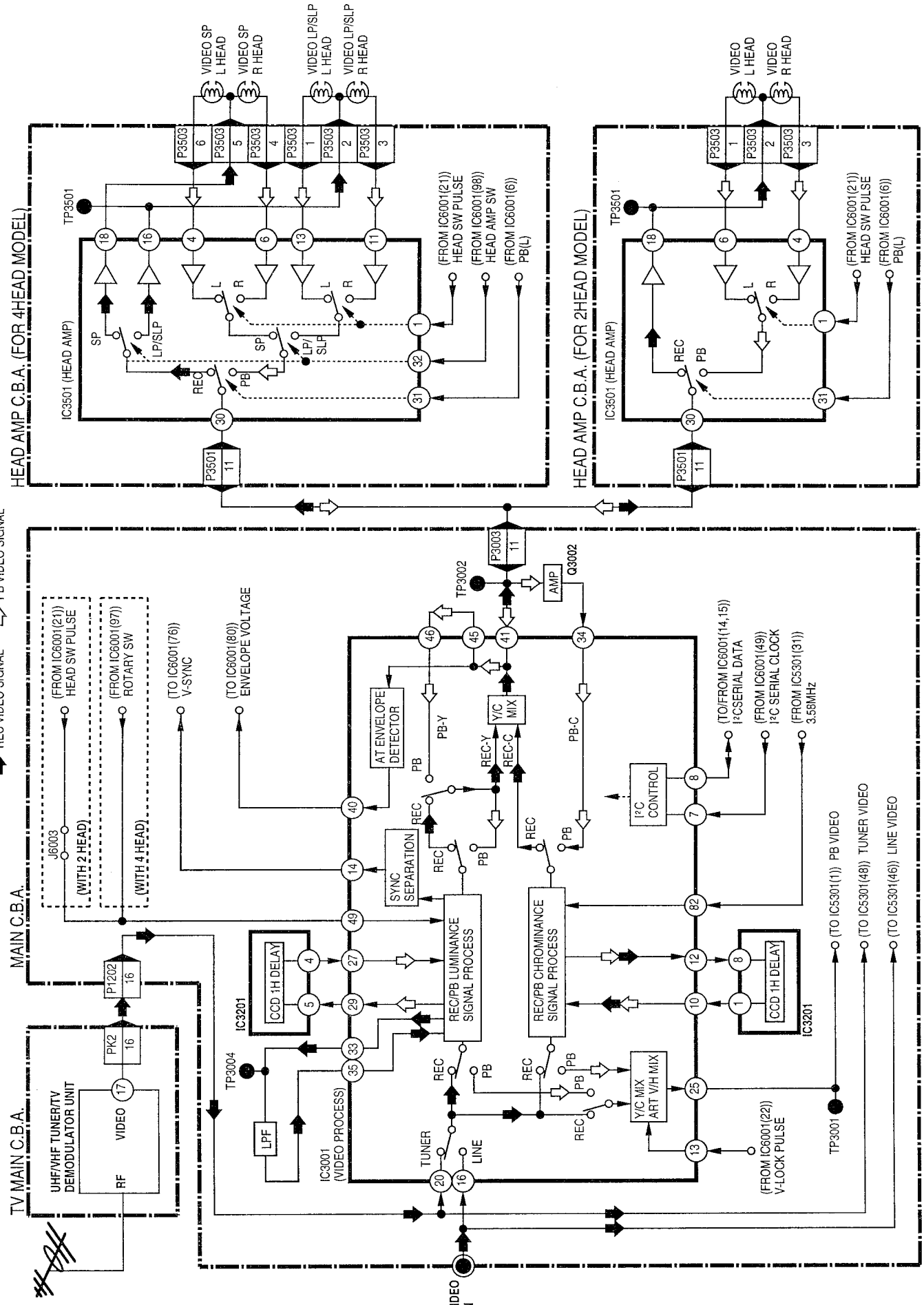
CH1 WF72
CH2 WF71

BLOCK DIAGRAMS

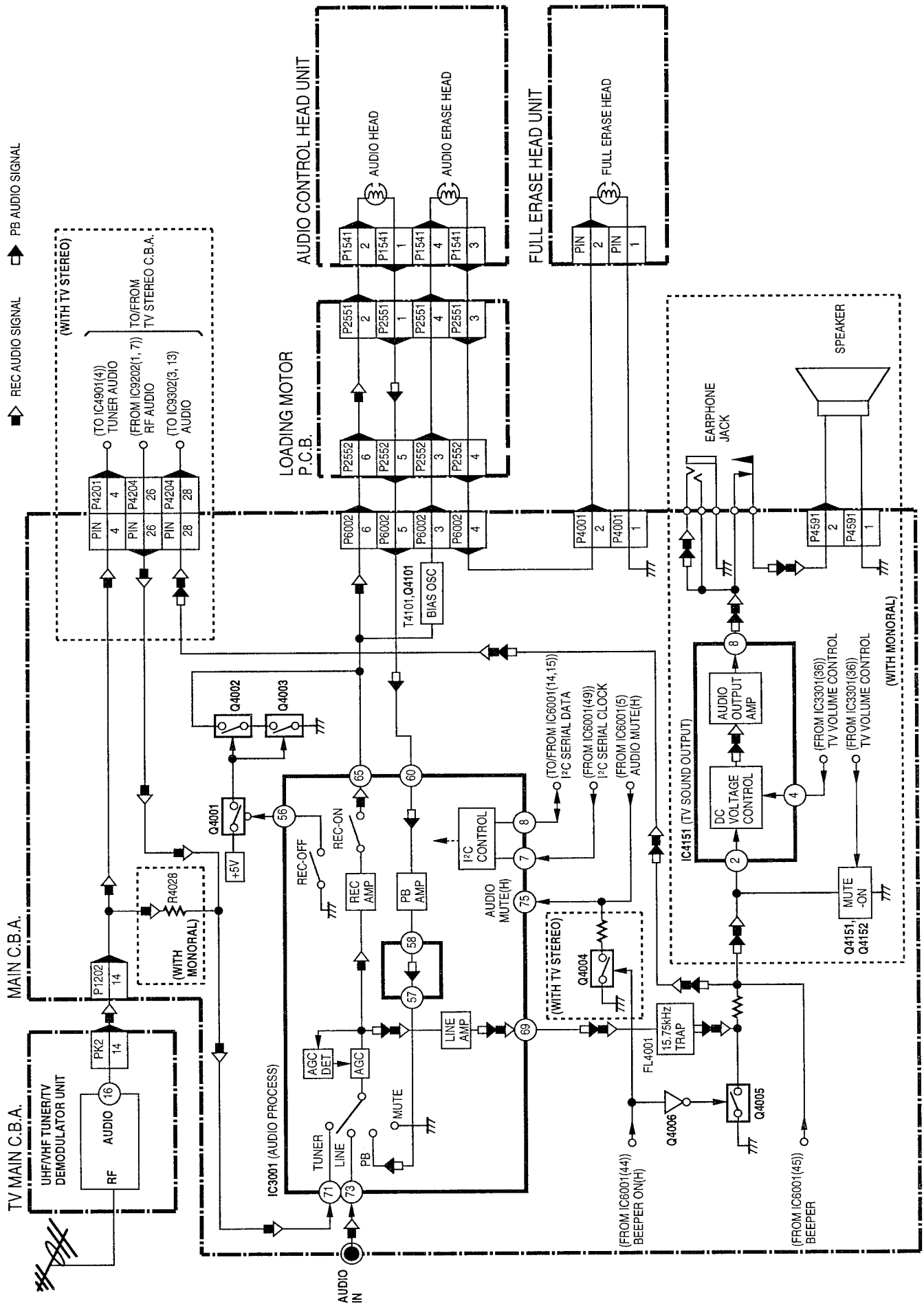
POWER SUPPLY BLOCK DIAGRAM



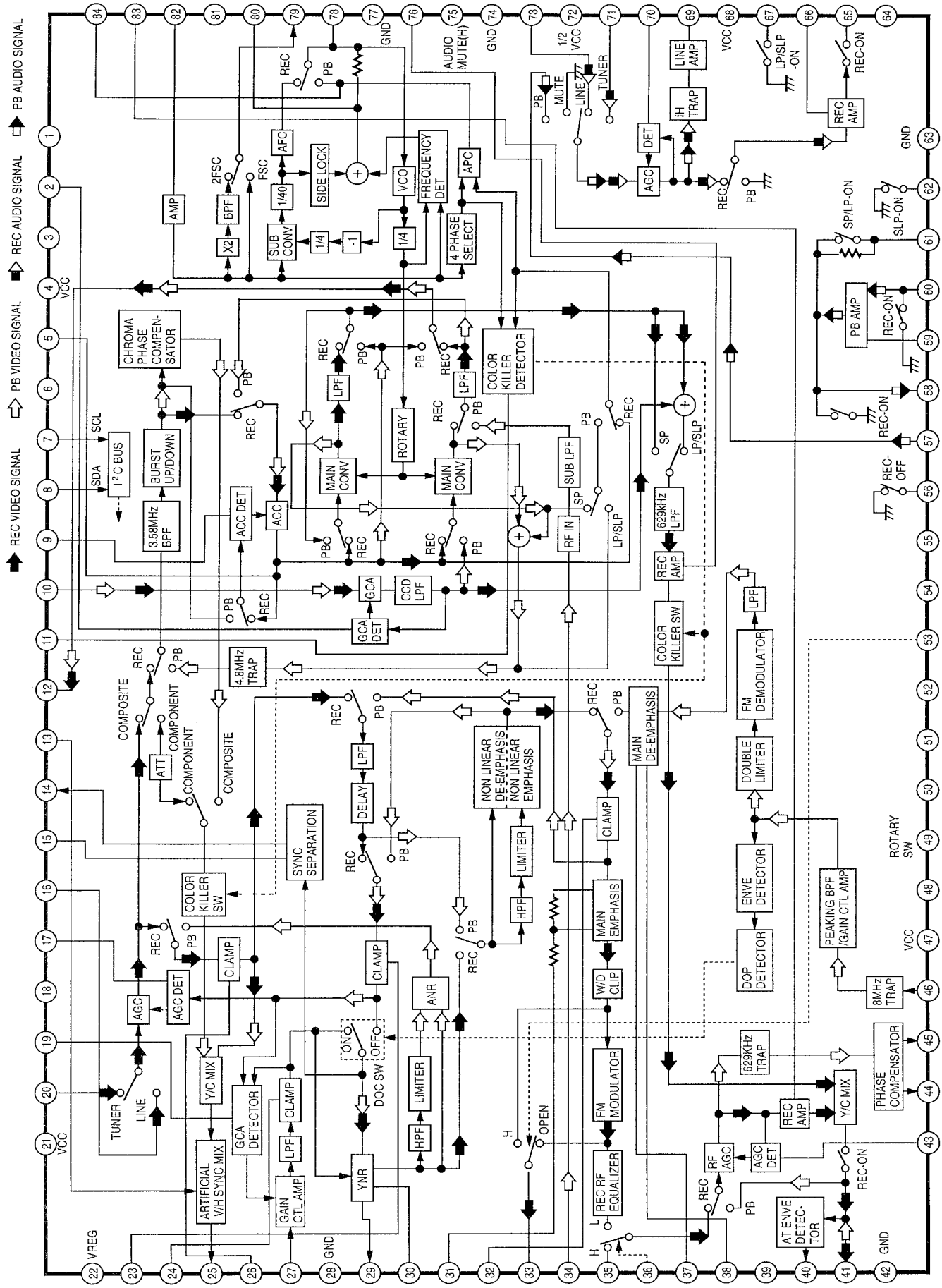
VIDEO SIGNAL PATH BLOCK DIAGRAM



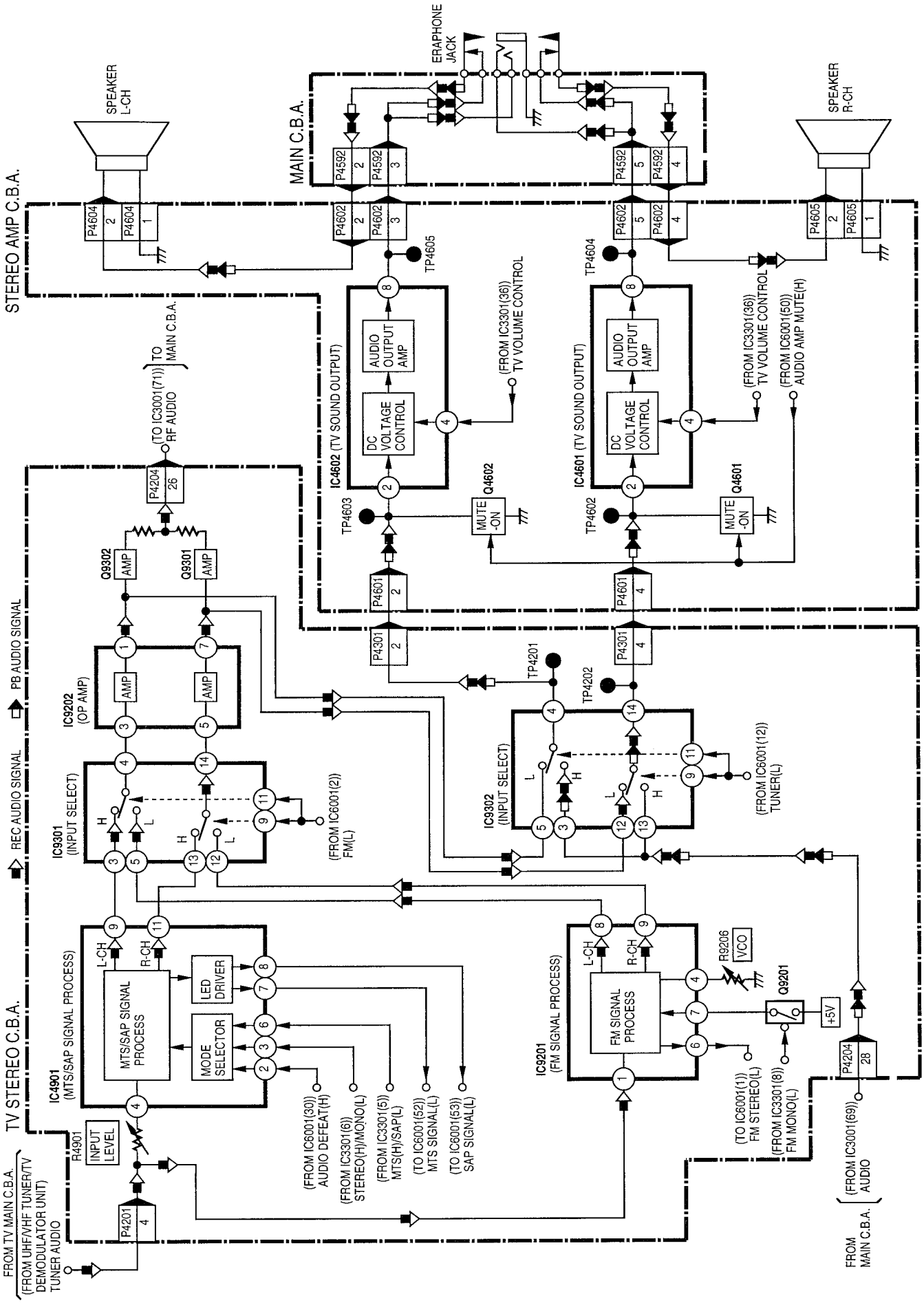
AUDIO SIGNAL PATH BLOCK DIAGRAM



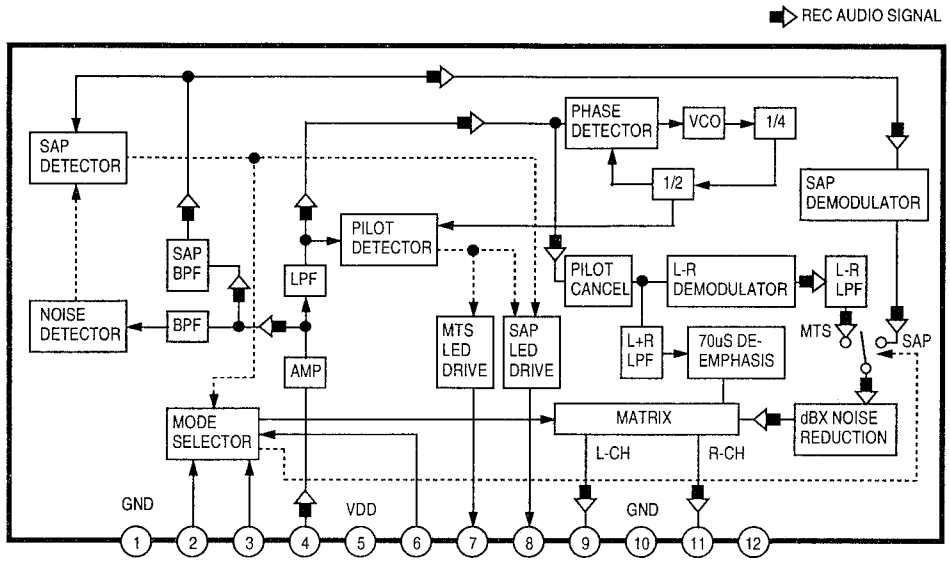
IC3001 VIDEO/AUDIO PROCESS IC-BLOCK DIAGRAM, AN3475FBP



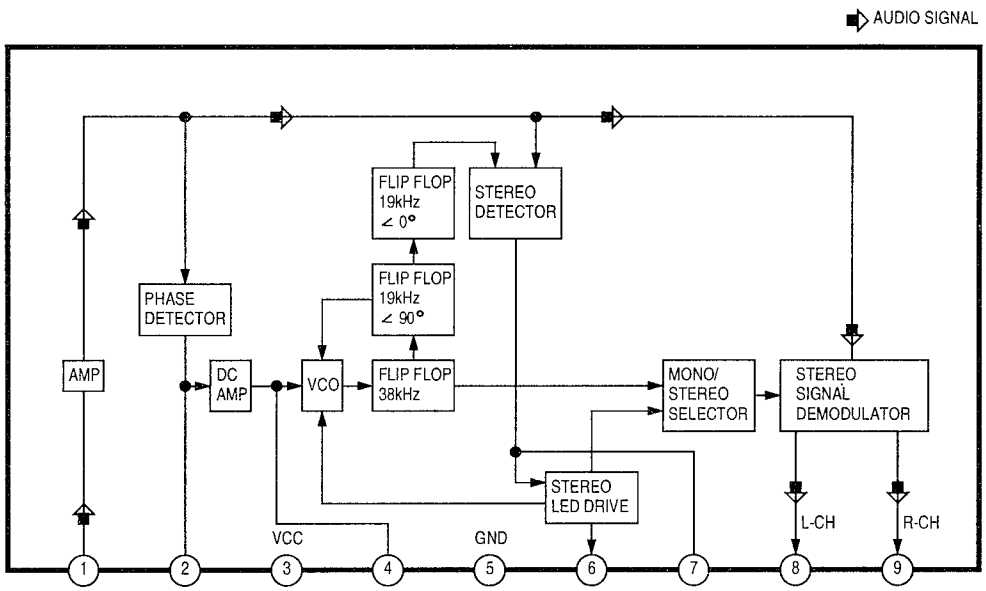
TV STEREO/STEREO AMP BLOCK DIAGRAM



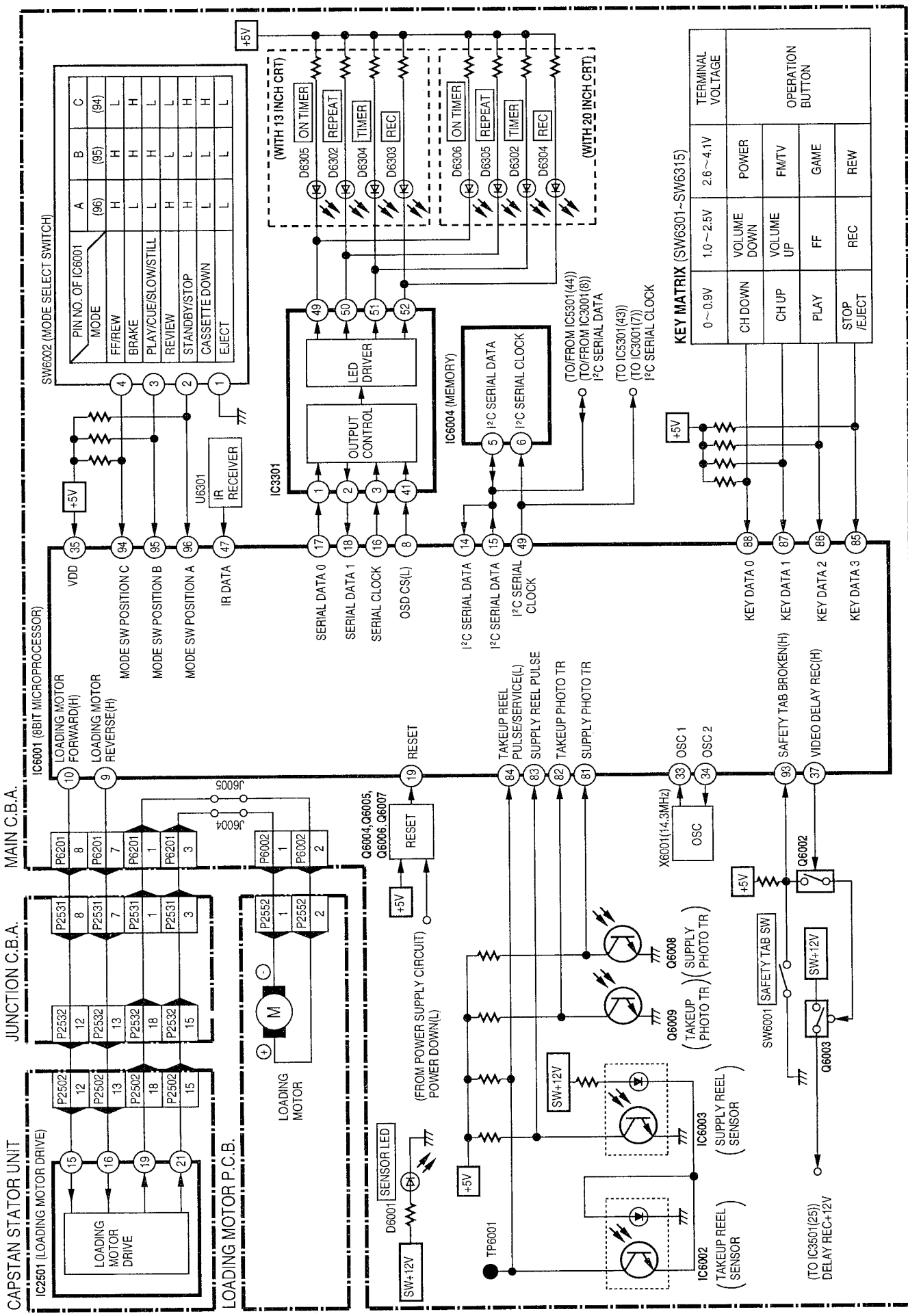
IC4901 MTS/SAP AUDIO PROCESS IC-BLOCK DIAGRAM, VCRS0214



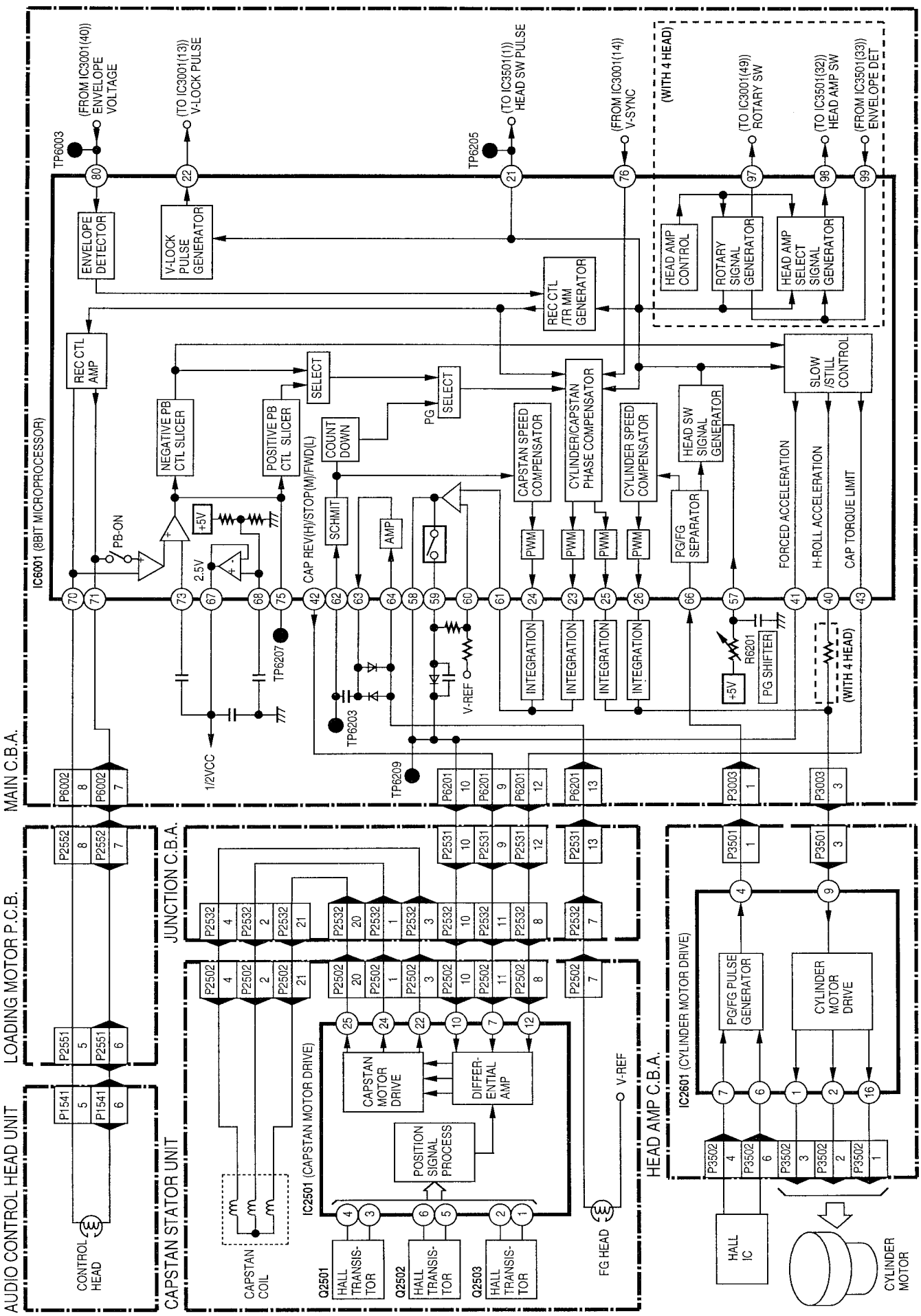
IC9201 FM STEREO MULTIPLEX DEMODULATOR IC-BLOCK DIAGRAM, AN7420



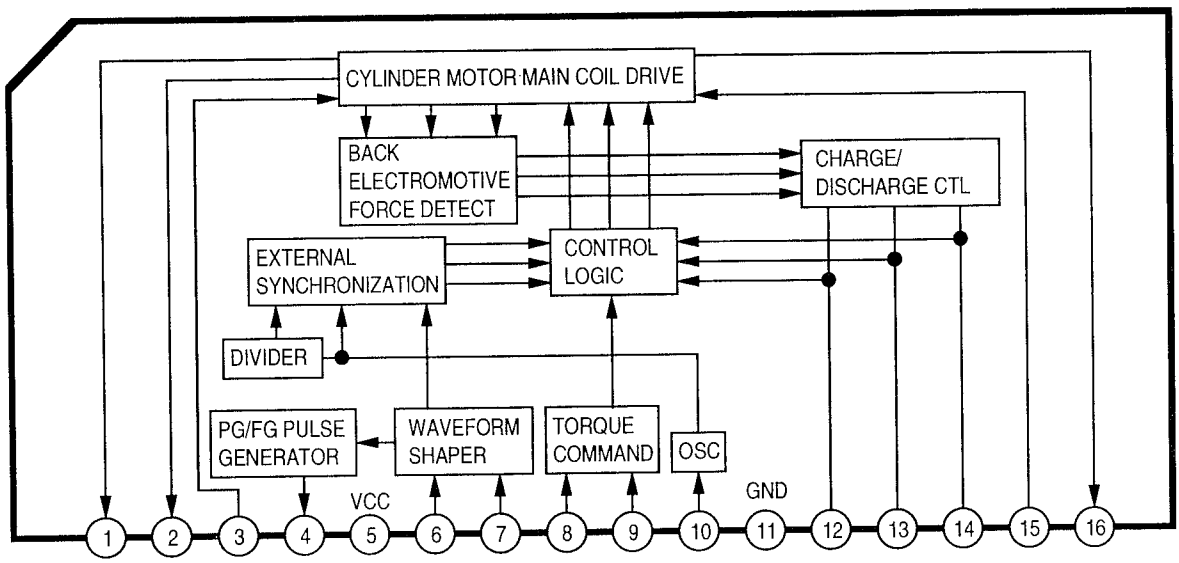
SYSTEM CONTROL BLOCK DIAGRAM



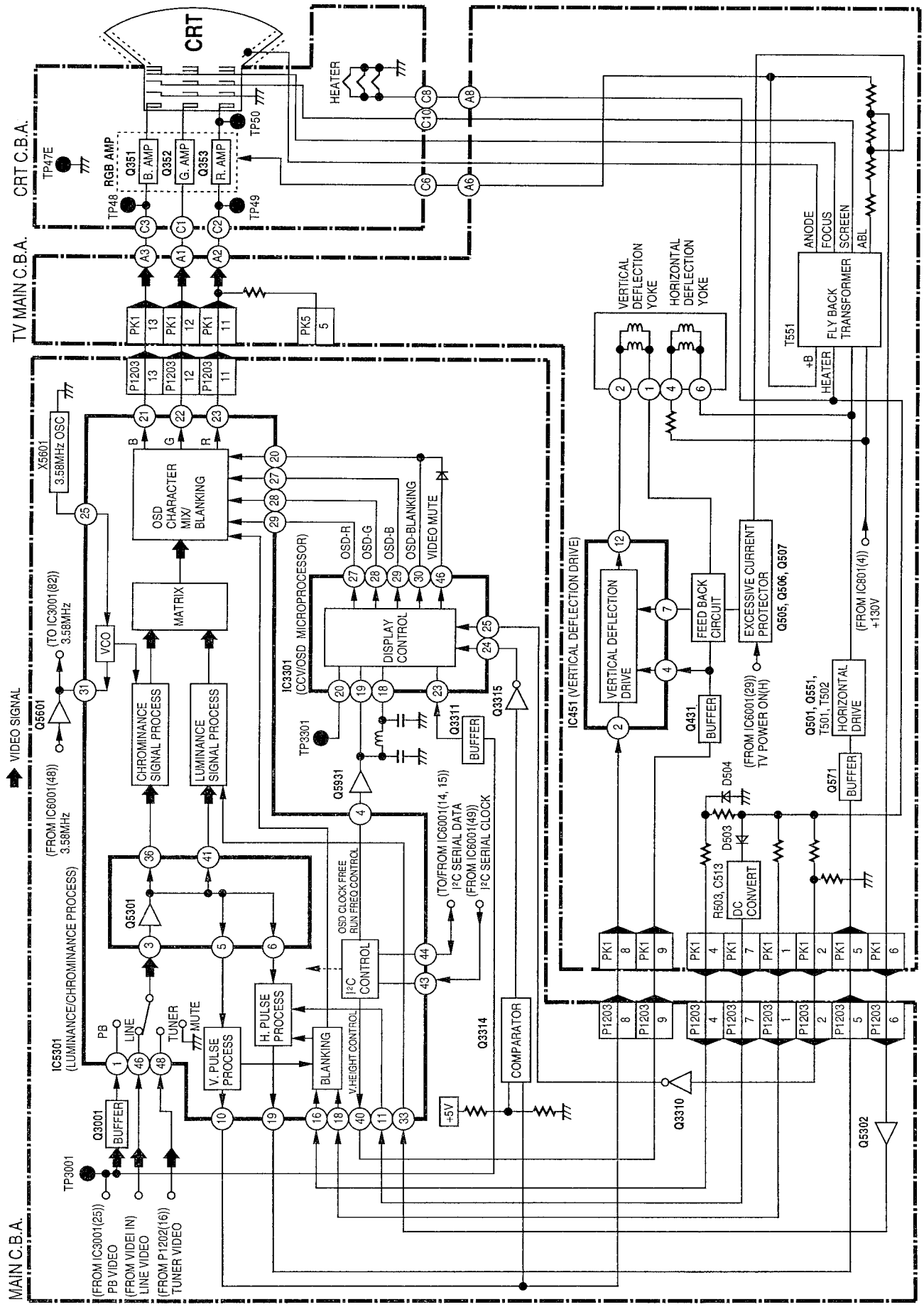
SERVO BLOCK DIAGRAM



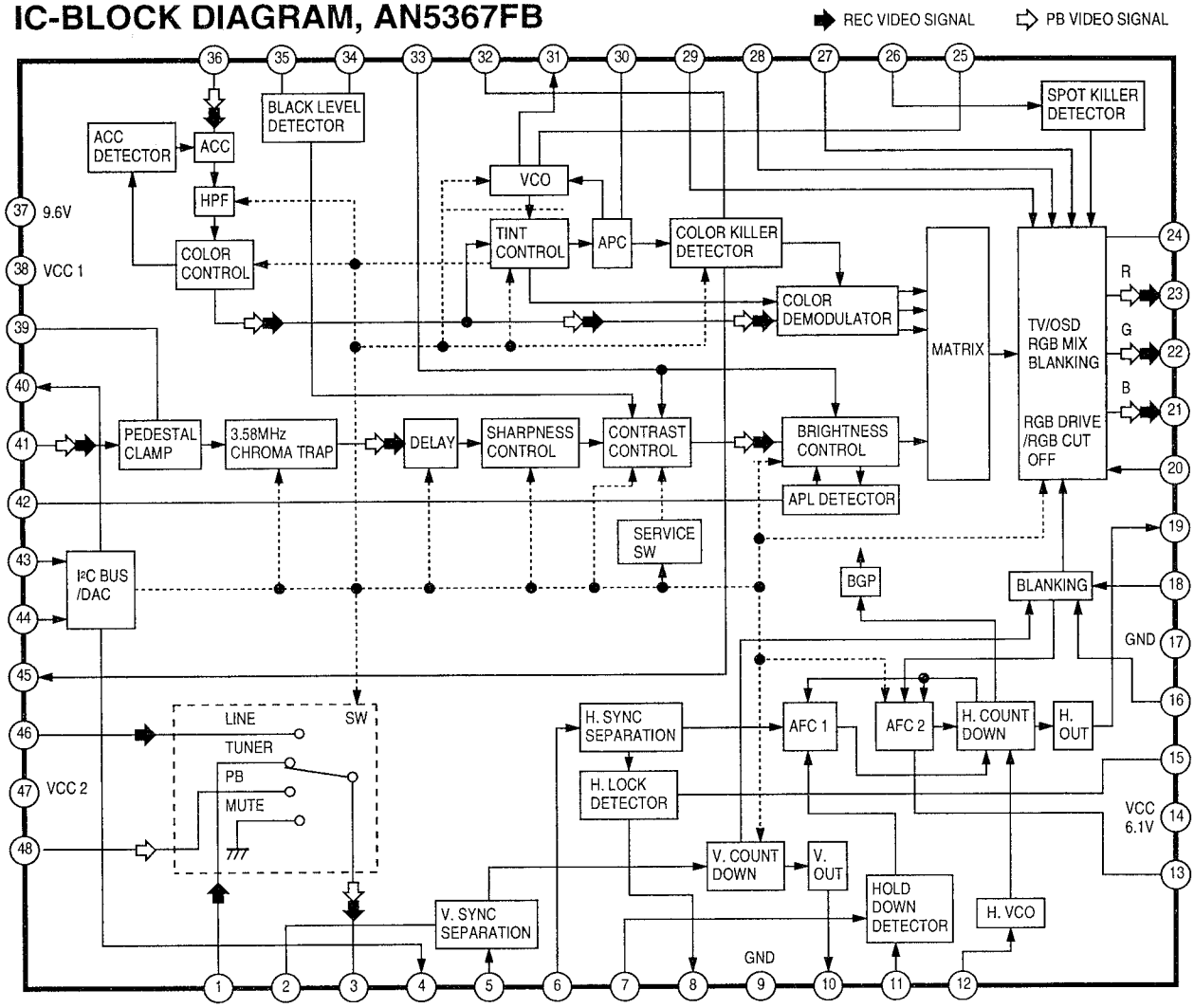
IC2601 CYLINDER MOTOR DRIVE IC-BLOCK DIAGRAM, AN3809K



TV Y/C PROCESS/OSD/CCV/TV MAIN BLOCK DIAGRAM



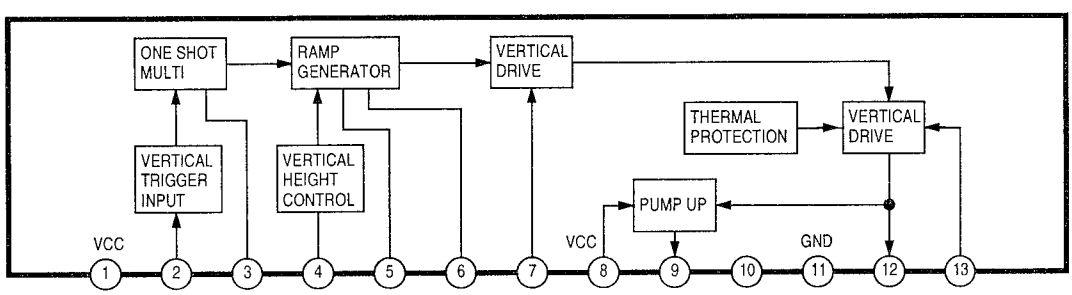
IC5301 LUMINANCE/CHROMINANCE PROCESS IC-BLOCK DIAGRAM, AN5367FB



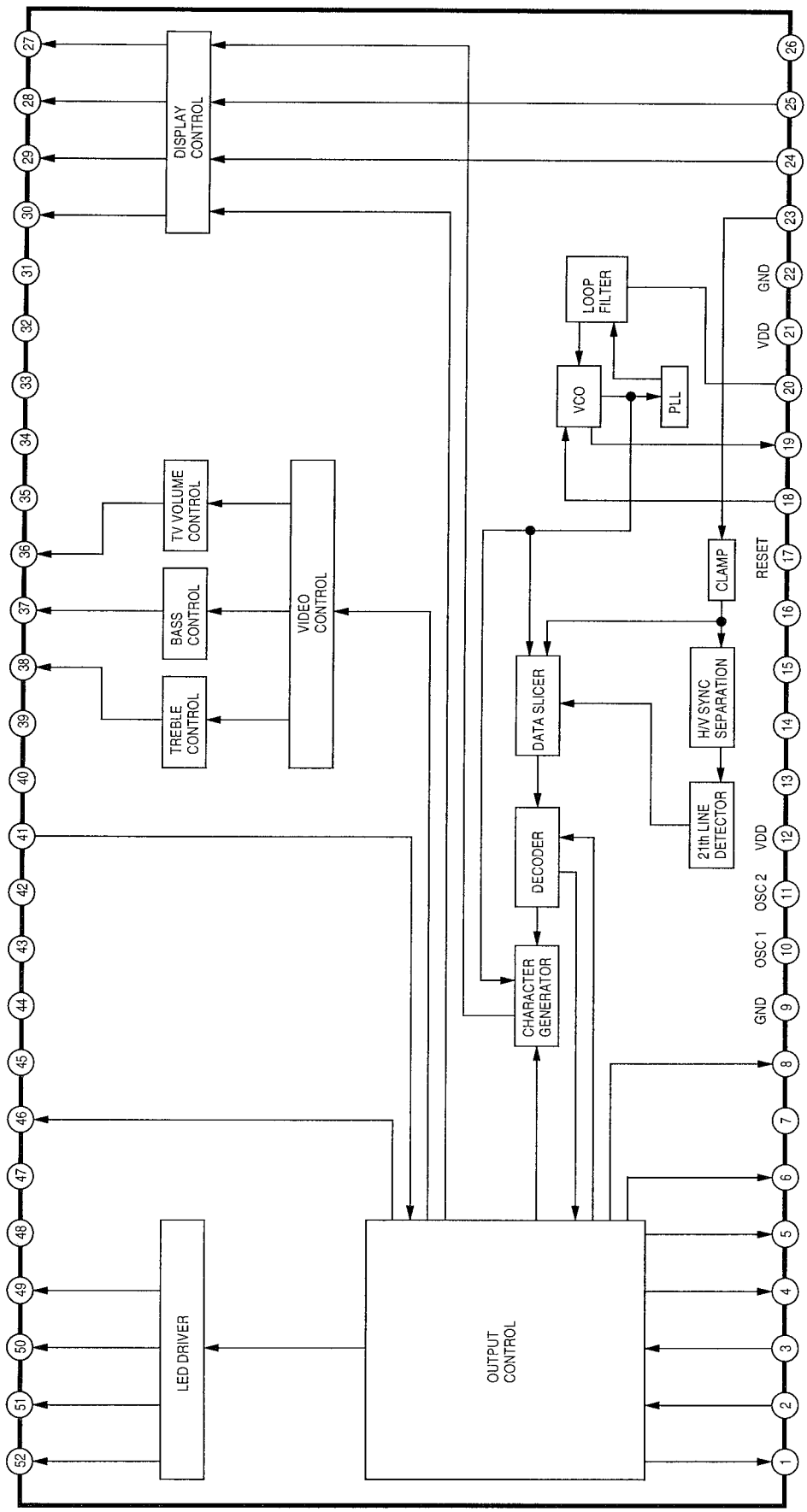
THE FOLLOWING CONTROL FUNCTIONS ARE ADJUSTED BY USING I²C BUS .

- SUB COLOR
- SUB TINT
- SUB BRIGHT
- SUB SHARPNESS
- R CUT-OFF
- G CUT-OFF
- B CUT-OFF
- G DRIVE
- B DRIVE
- SUB CONTRAST
- H CENTER
- V SIZE

IC451 VERTICAL DEFLECTION DRIVE IC-BLOCK DIAGRAM, LA7837

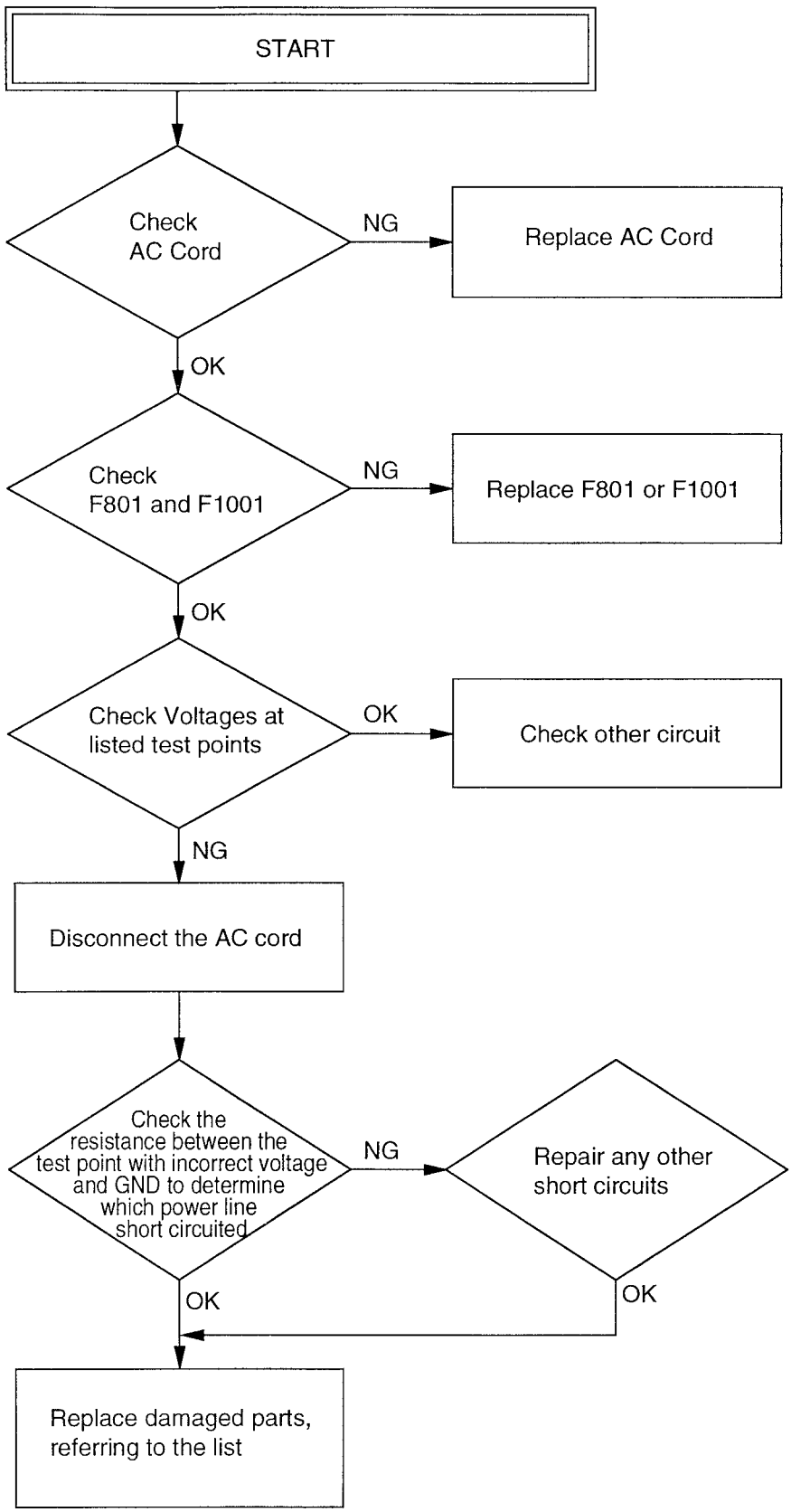


IC3301 8BIT MICRO PROCESSOR OSD/CCV
IC-BLOCK DIAGRAM, LC8643125957



TROUBLESHOOTING HINTS

Power Supply Section



Voltage and Resistance of Power Line

Test Points (Main C.B.A.)	Voltage	Resistance
TP1052 (DC+37V)	36.5V	More than 500 ohm
TP1053 (DC+14V)	13.5V	More than 30 ohm
C1014(negative side) (DC-30V)	-30.7V	More than 500 ohm
TP1055 (DC+5V)	5.2V	More than 25 ohm
Q1005(collector) (Power Down (L))	5.2V	More than 500 ohm
TP1058 (DC+12V)	12.0V	More than 30 ohm

VOLTAGE: STOP mode under normal conditions.
RESISTANCE: Between Test points and GND with power off under normal conditions.
Note: The Voltages and Resistance listed are approximate.

When power line is short circuited, check the following parts. Replace if necessary.

(1). SHORT CIRCUIT AND REPLACEMENT PARTS ON POWER LINE.

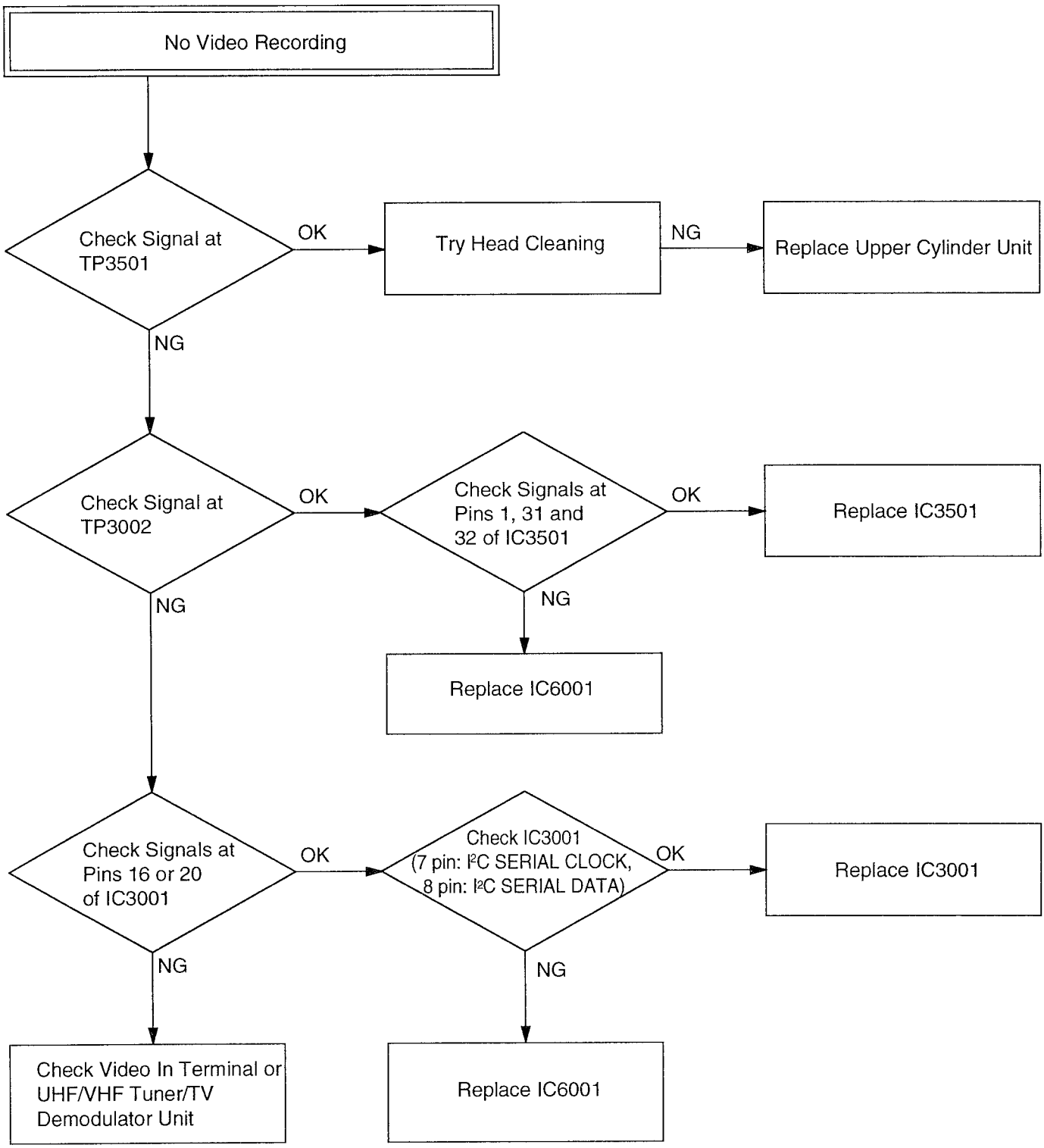
	CONDITION OF SHORT CIRCUIT	DAMAGEABLE PARTS BY SHORT CIRCUIT
(1)	5V ➡ GND	*PR1001, *D1008, Q1005
(2)	37V ➡ GND	*D1005, *R1010
(3)	14V ➡ GND 12V ➡ GND	D1006, *D1015, Q1051, *Q1052 D1051, D1052, D1053, *PR1050, *PR1054
(4)	-30V ➡ GND	*R1011, *D1007,
(5)	37V ➡ 14V	D1006, *D1015, Q1051, *Q1052 D1051, D1052, D1053, *PR1050, *PR1054
(6)	-30V ➡ 5V	REPLACE THE ALL OF PARTS OF (1) AND (4)
(7)	14V ➡ 12V	*Q1051, *Q1052, D1051, D1052, D1053, *PR1050, *PR1054
(8)	37V ➡ POWER DOWN(L)	*Q1005, D1005, R1010

*NOTE1: When a short circuit occurs supplying the Power for a long time will cause the fuse to blow.
*NOTE2: Parts with mark are the most susceptible to damage in case of short circuit. Please check them first.

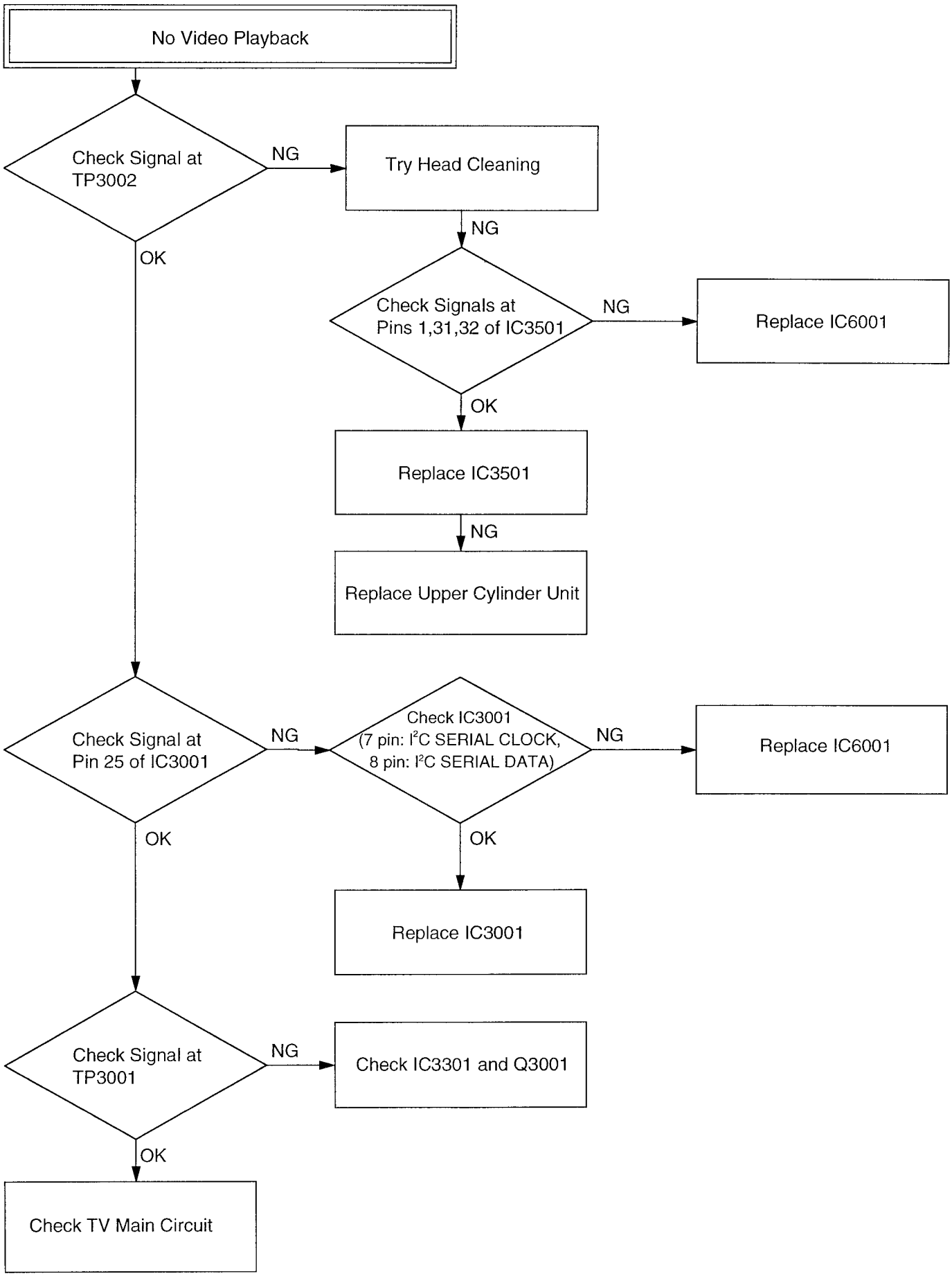
(2). IN CASE OF FUSE(F1001) BLOW.
Replace Parts F1001, Q1001, Q1002, D1001(very rarely has problems), C1016, C1028, D1015.
Cause ➡ It may be caused by a short circuit of 5V or 14V.

(3). JUST AFTER TURNING POWER ON, ABNORMAL NOISE CAN BE HEARD FROM POWER SUPPLY CIRCUIT.
Replace Parts D1015, D1008, D1007, R1011, C1016.
Cause ➡ It may be caused by a short circuit of 5V, -30V, 14V.
In this condition, supplying the Power for a long time will causes the fuse to blow.

Video Section



Video Section



DISASSEMBLY/ASSEMBLY PROCEDURES

DISASSEMBLY/ASSEMBLY PROCEDURES OF CABINET

Disassembly Flowchart

Perform all disassembly procedures in the order described in the "Disassembly Flowchart" shown below. When reassembling, use the reverse procedure.

CAUTION:
Disconnect AC plug before disassembly.

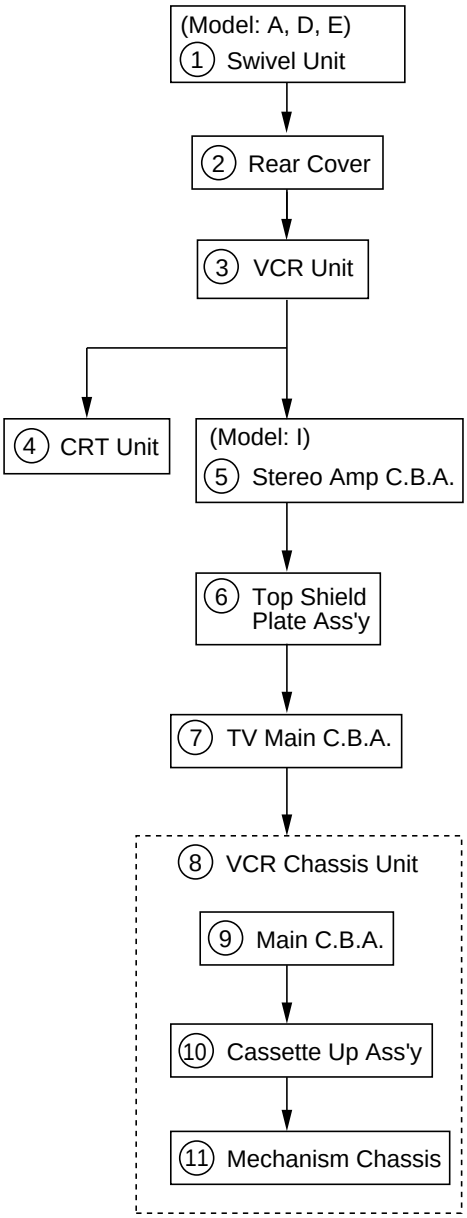


Fig. D1

Swivel Unit (Model: A, D, E)

Disassembly Procedure

1. While pushing one of the Locking Tabs (A) outward, pull that portion of the Swivel Unit free from the unit.
2. Repeat step 1 for other Locking Tabs (A) to remove the Swivel Unit.

Bottom View

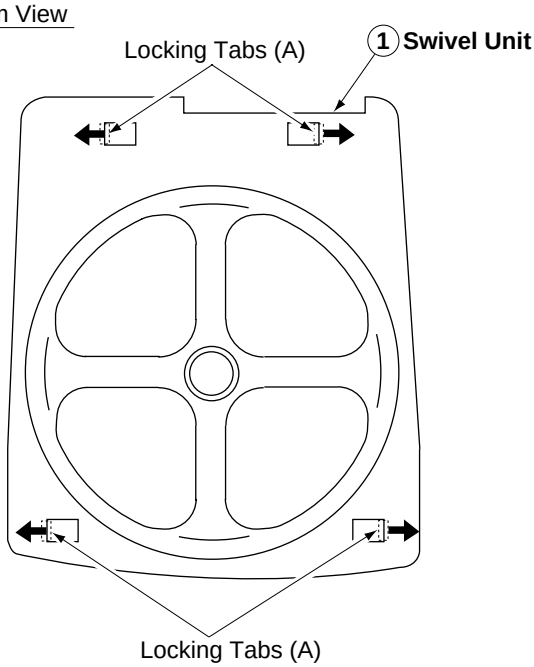


Fig. D2

Rear Cover

Disassembly Procedure

Remove 7 Screws (A). Then, pull the Rear Cover away.

(Model: A, B, C, D, E)

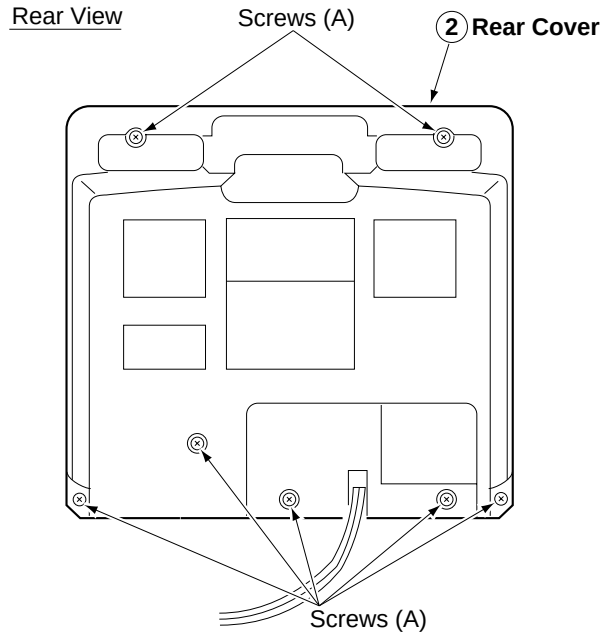


Fig. D3-1

(Model: F, G, H, I)

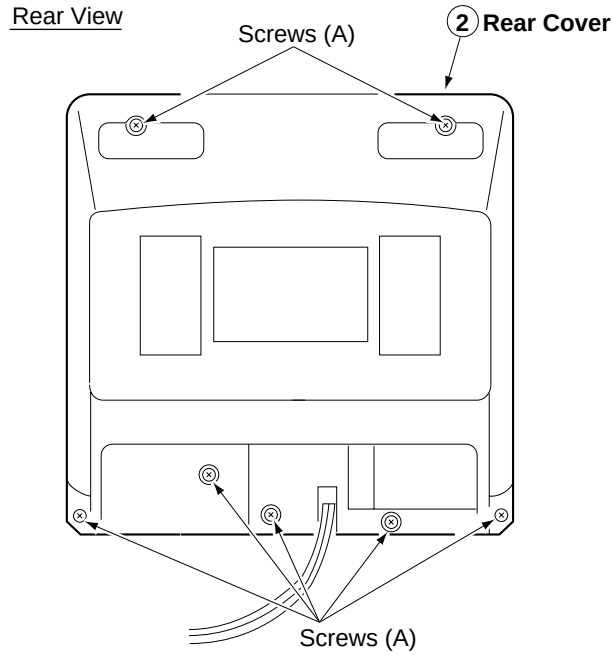


Fig. D3-2

VCR Unit

Disassembly Procedure

1. Discharge the Anode to the CRT Ground. Then, remove the Anode Cap.
2. Disconnect the Connector P354 from the CRT C.B.A.
3. Carefully pull out the CRT C.B.A. from the CRT Unit.
4. Disconnect the Deflection Yoke Connector and the Degaussing Coil Connector from the Main C.B.A.
5. (Model : A, B, C, D, E, F, G, H)
   Disconnect the Connector P4591 on the Main C.B.A. and remove the leads from the clampers.

   (Model : I)
   Disconnect 2 Connectors P4604 and P4605 on the Stereo Amp C.B.A. and remove the leads from the clampers.

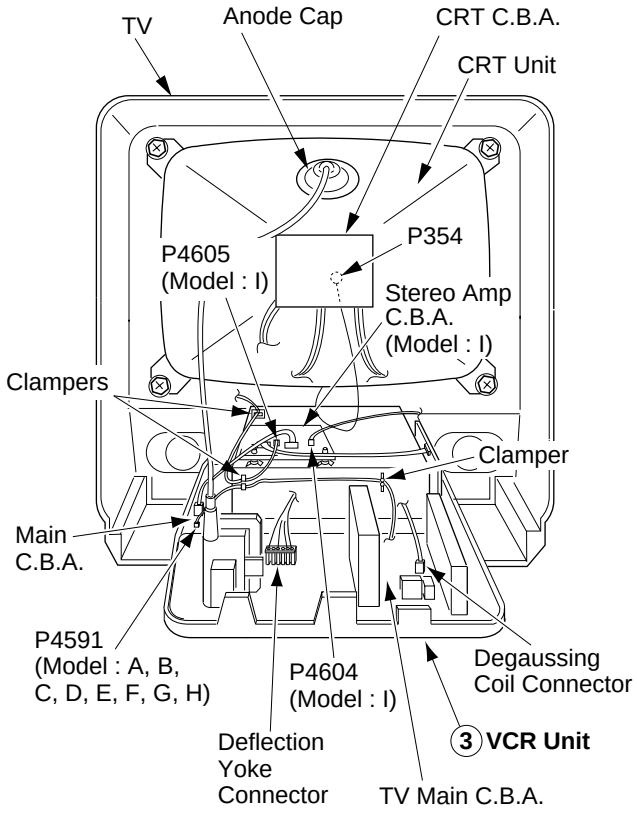


Fig. D4-1

6. (Model: A, B, C, D, E)
   Slightly lift up the rear side of the VCR Unit to release Tabs (B).
   (Model: F, G, H, I)
   Slightly lift up the rear side of the VCR Unit to release Tabs (B) and (C).
7. Slide the VCR Unit out as far as it will go.
   Then, lift up the VCR Unit to release 3 Guide Tabs (A) and remove the VCR Unit all the way out from the TV cavity.

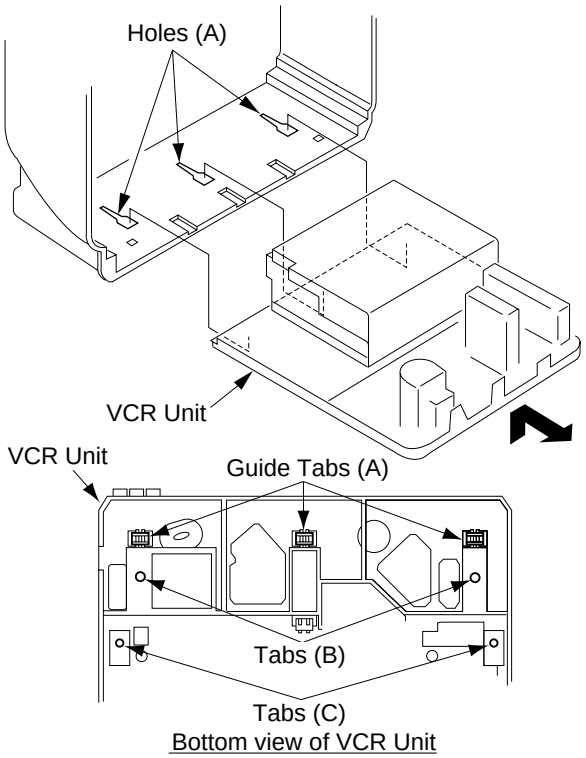


Fig. D4-2

Reassembly Notes

1. Installation of VCR Unit

1) When installing the VCR Unit, swing the Cassette Door-Lid all the way open until the Cassette Door tab clears the Opener Lever.
2) Make sure that all guide tabs are aligned properly. Then, press the VCR unit in.

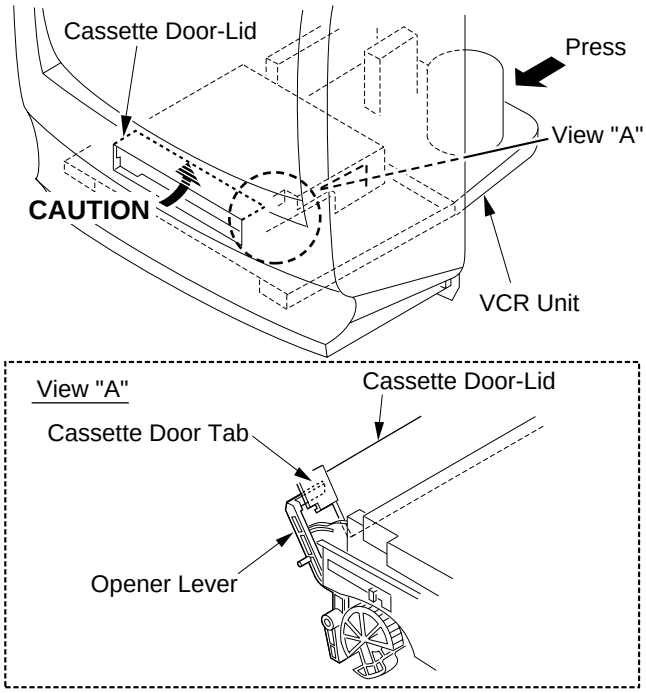


Fig. D4-3

CRT Unit

Disassembly Procedure

Remove 4 Screws with Washers (A). Then, pull out the CRT Unit.

Note:
Place the Unit face down on a soft cloth before removing the CRT Unit.

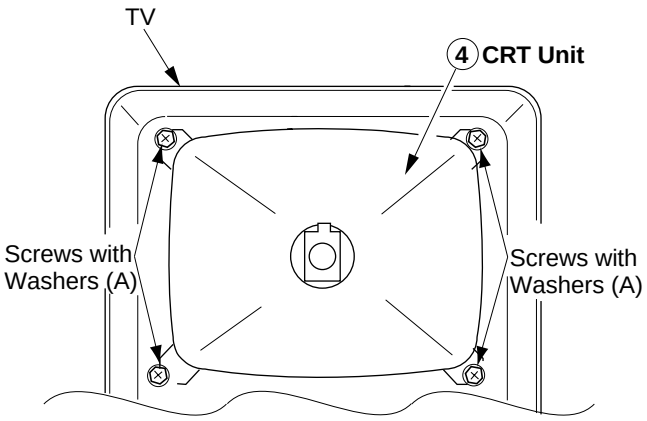


Fig. D5

Stereo Amp C.B.A. (Model: I)

Disassembly Procedure

1. Disconnect 2 Connectors P4592 on the Main C.B.A. and P4301 on the TV Stereo C.B.A.
2. Release 3 Clampers (A) on the TV Stereo C.B.A. Then, remove the Stereo Amp C.B.A.

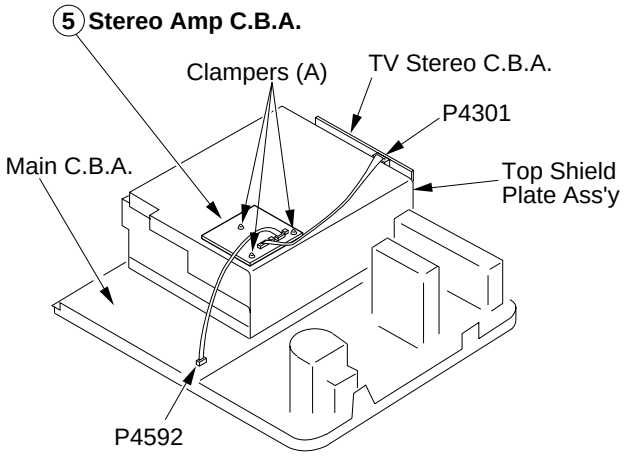


Fig. D6

Top Shield Plate Ass'y

Disassembly Procedure

1. Release the 2 Clampers (B) on the Top Shield Plate Ass'y and remove the leads from the clampers.
2. Remove 3 Screws (B). Then, remove the Top Shield Plate Ass'y.

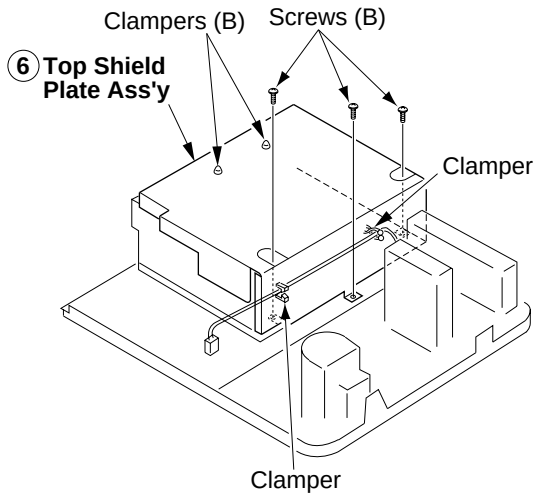


Fig. D7-1

Reassembly Notes

1. When installing the Top Shield Plate Ass'y, make sure the 2 Clampers (B) on the Cassette Up Ass'y are turned in the direction shown.
   If not, the Top Shield Plate Ass'y cannot be installed.

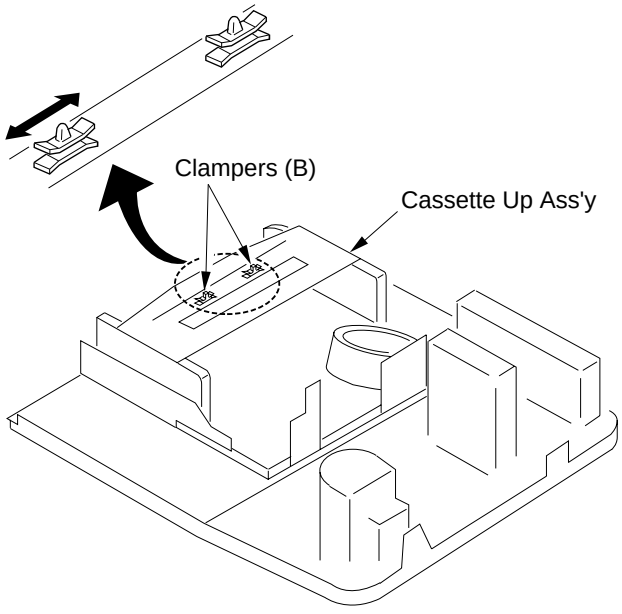


Fig. D7-2

TV Main C.B.A.

Disassembly Procedure

1. Disconnect Connector P1002 on the Main C.B.A.
2. Disconnect 3 Connectors PK1, PK2, and PK3 on the TV Main C.B.A.

   Note :
   When disconnecting or connecting 3 Connectors PK1, PK2, and PK3, take extreme care not to break them.

3. Remove the TV Main C.B.A. by releasing 2 Locking Tabs (B) and A/C Cord from the frame.

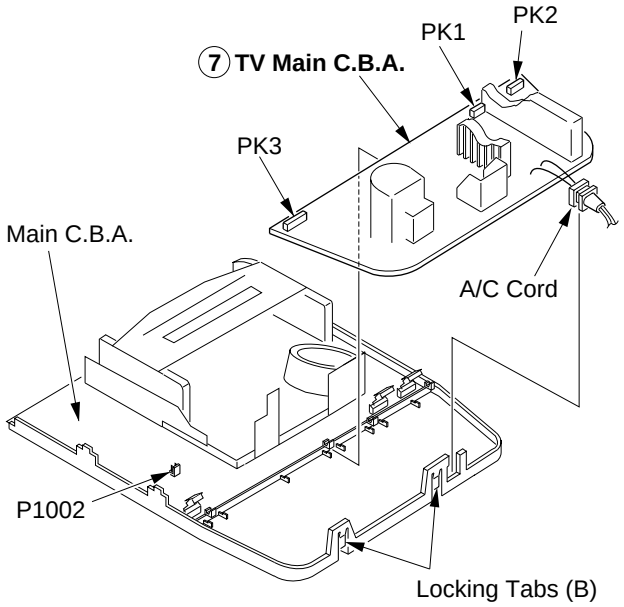


Fig. D8

VCR Chassis Unit

Disassembly Procedure

1. Slide the Holder Unit (refer to "Method for Manual Loading/ Unloading of Mechanism" in Service Notes) to remove 2 Screws (C).
2. (Model: A, B, C, D, E)
   Remove 3 Screws (D) and Screw (E).
   (Model: F, G, H, I)
   Remove 2 Screws (D) and Screw (E).
3. Remove 2 Screws with Washers (B).

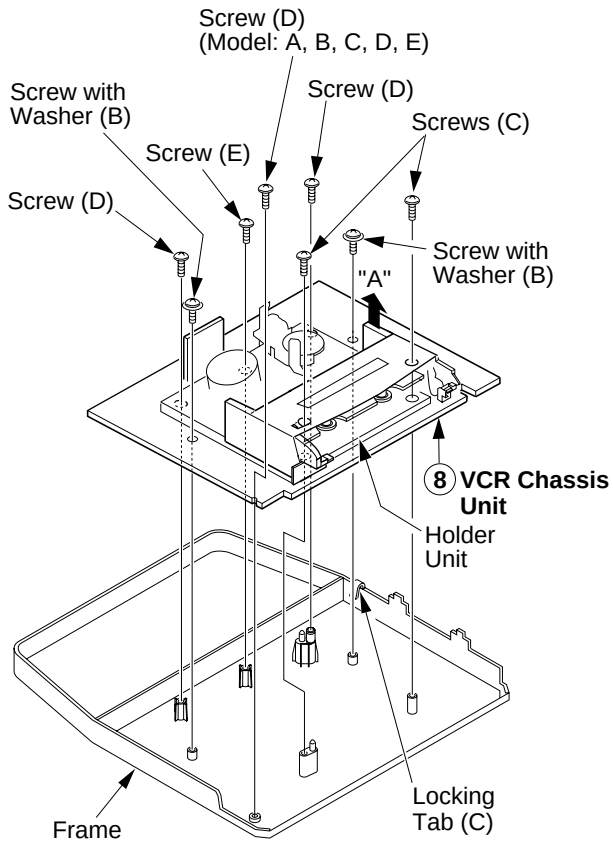


Fig. D9

4. While pushing Locking Tab (C) outward, lift the right side of the Cassette Up Ass'y (Portion "A"). Then, lift the VCR Chassis Unit out of the Frame.

Note:
Work carefully so as not to break tab.

Main C.B.A.

Disassembly Procedure

1. Disconnect 4 Connectors of P2531, P2552, P3501 and P4001.
2. Carefully lift the Mechanism Chassis Unit straight out from the Main C.B.A.

Note:
Work carefully so as not to break Sensor LED, when lifting the Mechanism Chassis Unit.

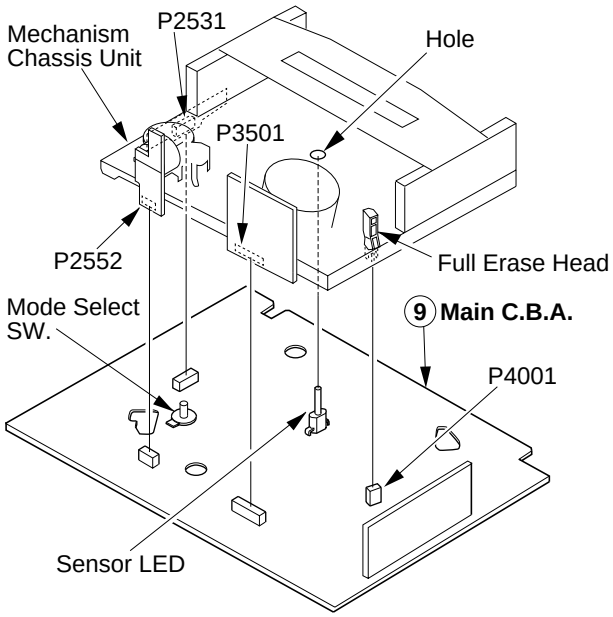


Fig. D10-1

Reassembly Notes

1. Make sure that the Mode Select SW. on the Main C.B.A. is in EJECT position before installing the Mechanism Chassis Unit onto the Main C.B.A. If not, rotate the Mode Select SW. until the alignment projection is in the EJECT Position.

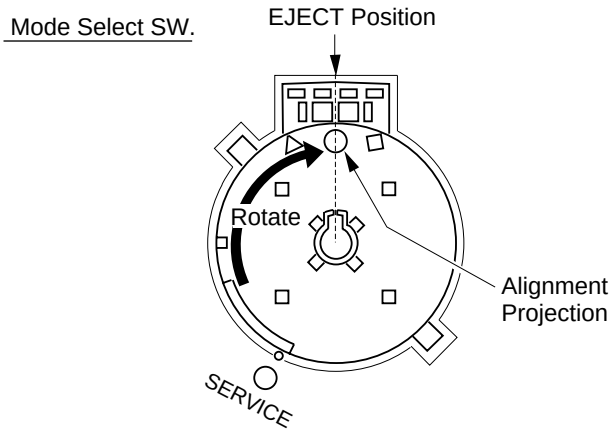


Fig. D10-2

2. Be sure to install the Mechanism Chassis Unit straight onto the Main C.B.A. so that the Sensor LED clears the hole in the Mechanism Chassis Unit.
3. Be sure that 4 Connectors (P2531, P2552, P3501, and P4001) are aligned and seated securely.

Cassette Up Ass'y

Disassembly Procedure

1. Slide the Holder Unit (refer to "Method for Manual Loading/ Unloading of Mechanism" in Service Notes) to remove 2 Screws (F).
2. Remove Screw (G).
3. Unhook Spring (A).
4. Slide the Cassette Up Ass'y towards the front to release Tab (C). Then, lift it up and remove.

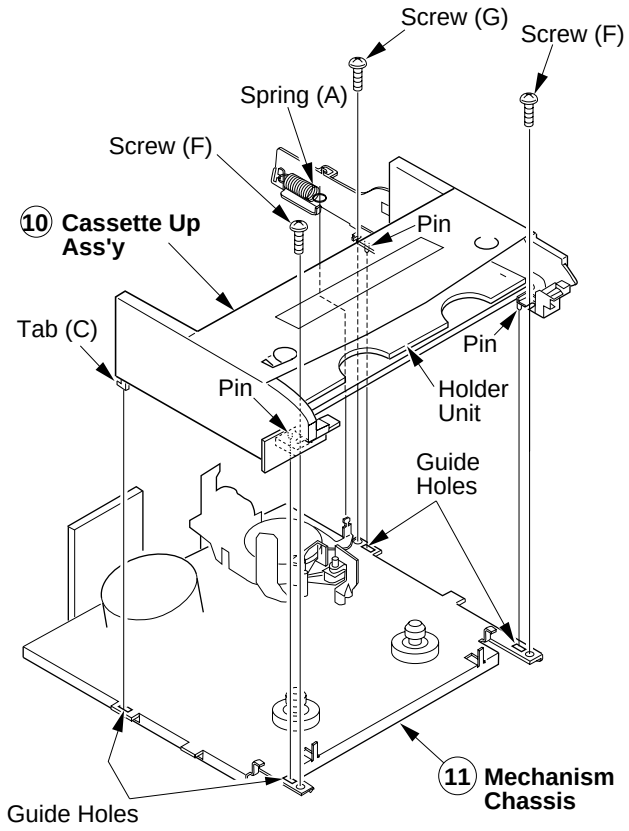


Fig. D11

Reassembly Notes

1. Installation of Cassette Up Ass'y

1) Confirm that the 3 pins and Tab (C) under the Cassette Up Ass'y are in each of the 4 Guide Holes on the Mechanism Chassis when installing the Cassette Up Ass'y. Then, slide the Cassette Up Ass'y towards the back.
2) Tighten 2 Screws (F) and Screw (G).
Be careful not to tighten them too much, or the Cassette Up Ass'y may be bent outward.

DISASSEMBLY/ASSEMBLY PROCEDURES OF MECHANISM

Disassembly Method

This chart indicates Step/Location No. of Parts to be serviced and prior steps to gain access items to be serviced when disassembling. When reassembling, perform the step(s) in the reverse order.

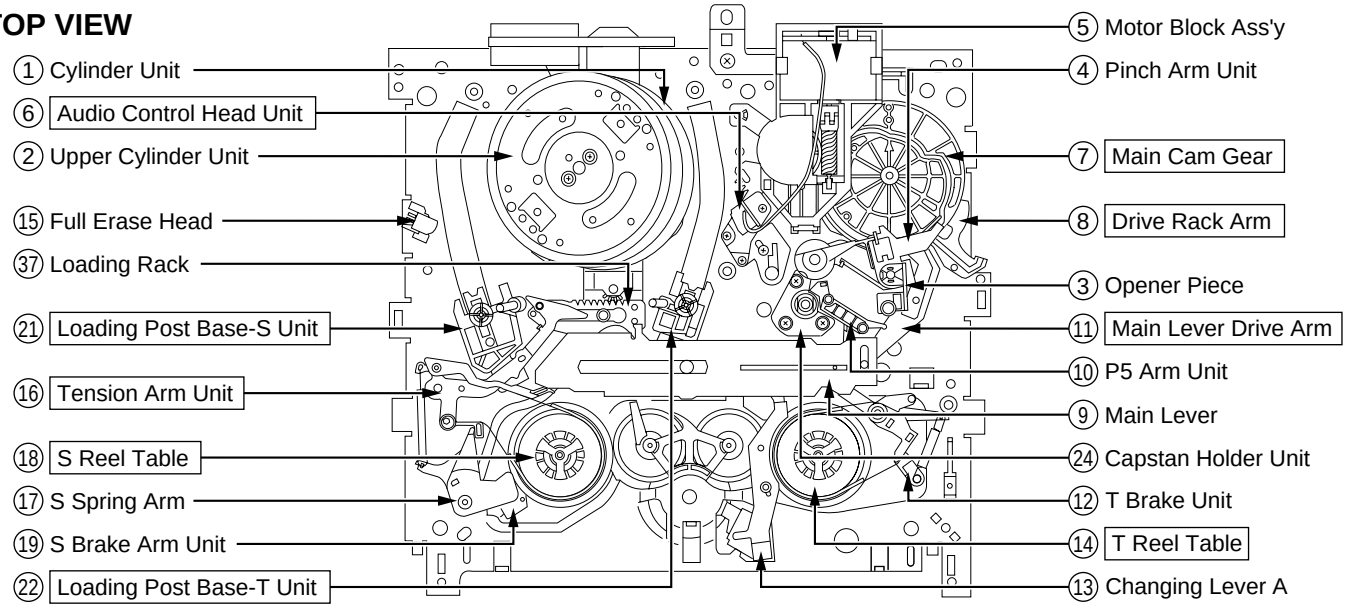
Step /Loc. No.	Part	Prior Step(s)	Step /Loc. No.	Part	Prior Step(s)	Step /Loc. No.	Part	Prior Step(s)	Step /Loc. No.	Part	Prior Step(s)
①	Cylinder Unit	----------	⑪	Main Lever Drive Arm	3, 4, 5, 7, 8, 9	㉑	Loading Post Base-S Unit	16	㉛	S Loading Arm Unit	30
②	Upper Cylinder Unit	----------	⑫	T Brake Unit	9	㉒	Loading Post Base-T Unit	9, 20	㉜	Center Clutch Unit	----------
③	Opener Piece	----------	⑬	Changing Lever A	9	㉓	Capstan Rotor Unit	----------	㉝	Changing Gear Spring	32
④	Pinch Arm Unit	3	⑭	T Reel Table	9, 12, 13	㉔	Capstan Holder Unit	23	㉞	Changing Gear	32, 33
⑤	Motor Block Ass'y	----------	⑮	Full Erase Head	----------	㉕	SS Brake Arm Unit	----------	㉟	Changing Lever-B	32, 33, 34
⑥	Audio Control Head Unit	5	⑯	Tension Arm Unit	----------	㉖	Junction C.B.A.	----------	㊱	Idler Arm Unit	32, 33, 34
⑦	Main Cam Gear	3, 4, 5	⑰	S Spring Arm	----------	㉗	Capstan Stator Unit	23, 25, 26	㊲	Loading Rack	9, 30
⑧	Drive Rack Arm	3, 4, 5, 7	⑱	S Reel Table	16, 17	㉘	Sub Rotor	23, 25, 26, 27	㊳	Grounding Plate Unit	----------
⑨	Main Lever	----------	⑲	S Brake Arm Unit	9, 16, 17, 18	㉙	PCB Holder	23, 25, 26, 27	㊴	FG Head	----------
⑩	P5 Arm Unit	9	⑳	Main Lever Guide	9	㉚	T Loading Arm Unit	----------			

Step/Loc. No.: Order of steps in procedure. Part : Part to be removed or installed. Prior Step(s) : Steps to be completed prior to the current step.

Note: When the mechanical parts surrounded by rectangle are removed or replaced, be sure to perform necessary adjustment or alignment procedures according to the mechanical adjustment procedures section and disassembly/assembly procedures of mechanism section.

Perform all disassembly and alignments procedures in EJECT Position.

TOP VIEW


① Cylinder Unit
⑥ Audio Control Head Unit
② Upper Cylinder Unit
⑮ Full Erase Head
㊲ Loading Rack
㉑ Loading Post Base-S Unit
⑯ Tension Arm Unit
⑱ S Reel Table
⑰ S Spring Arm
⑲ S Brake Arm Unit
㉒ Loading Post Base-T Unit
⑤ Motor Block Ass'y
④ Pinch Arm Unit
⑦ Main Cam Gear
⑧ Drive Rack Arm
③ Opener Piece
⑪ Main Lever Drive Arm
⑩ P5 Arm Unit
⑨ Main Lever
㉔ Capstan Holder Unit
⑫ T Brake Unit
⑭ T Reel Table
⑬ Changing Lever A

BOTTOM VIEW

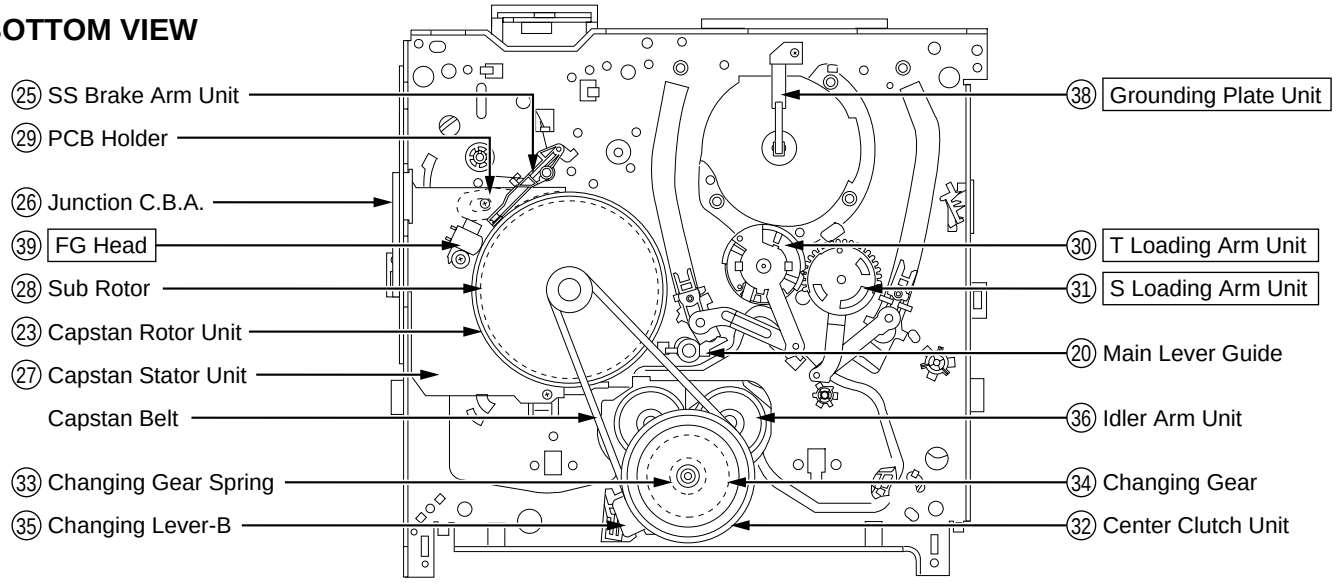


Fig. J1

Cylinder Unit

Disassembly Procedure

1. Remove 3 Screws (A) and 2 Screws with Washers (A). Then, lift the Cylinder Unit and the Head Amp C.B.A. out from the mechanism.
2. Unsolder P3502 and P3503. Then, remove the Head Amp C.B.A.

Note:

Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing.

CAUTION:

When removing the Cylinder Unit, avoid touching IC2601 on the Head Amp C.B.A. because it is **HOT** during operation.

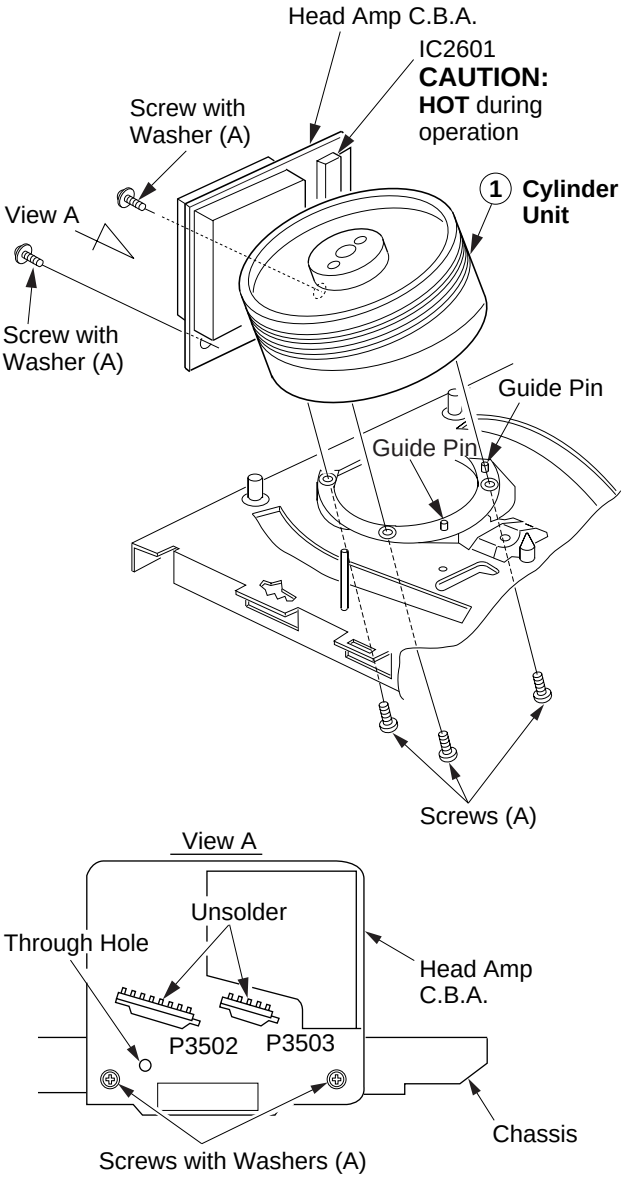


Fig. J2-1

Reassembly Notes

1. Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Installation of Cylinder Unit**
   1) Install the Cylinder Unit so that the 2 holes on the lower surface of the Cylinder Unit fit over the 2 Guide Pins on the Cylinder Base and loosely secure it with 3 Screws (A).
   2) Install the Head Amp C.B.A. so that the hole on the Head Amp C.B.A. lines up with the hole on the chassis and secure it with 2 Screws with Washers (A).
   3) Position the Cylinder Unit so that foil patterns of connectors (P3502 and P3503) and Head Amp C.B.A. are aligned, and tighten 3 Screws (A).
   4) Solder connectors (P3502 and P3503).
3. **Adjustment of Grounding Plate Unit**
   1) After installing, make sure that the Grounding Plate Unit, on the bottom side of mechanism chassis, is positioned on the right side of the Cylinder shaft so that the center line of the plate is just less than 1.0 mm measured from the center of the Cylinder shaft.
      If required, adjust the plate position by loosening Black Screw (A).
      Never install the Grounding Plate Unit on the left side of the Cylinder shaft.
      Incorrect positioning will cause cylinder buzz.

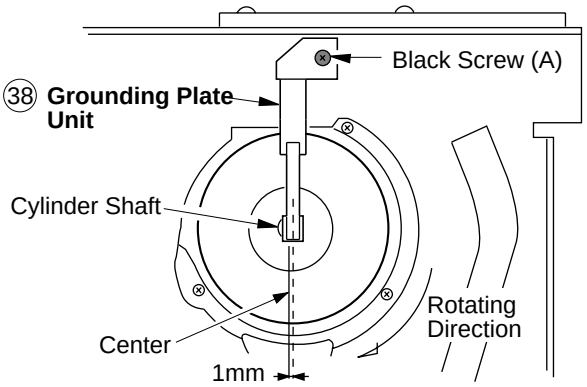


Fig. J2-2

   2) After installing, perform the "Tape Interchangeability Adjustment/Confirmation Procedures."

Upper Cylinder Unit

Disassembly Procedure

1. Remove 2 Screws with Washers (B).
2. Carefully lift the Upper Cylinder Unit from the shaft.

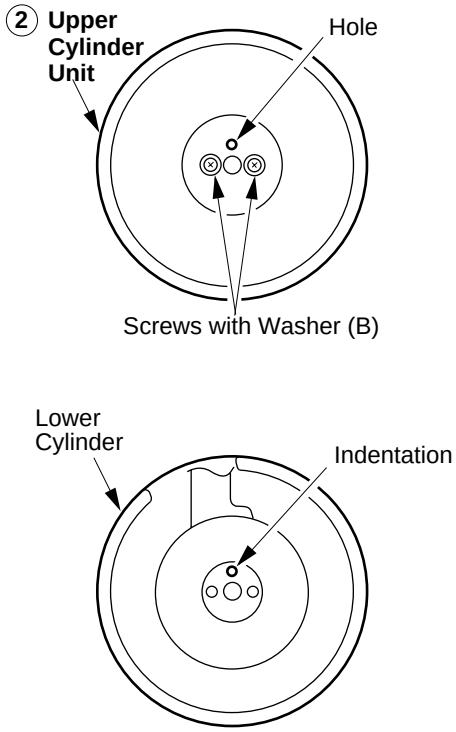


Fig. J3

Note:

Use extreme care when removing or replacing the Upper Cylinder Unit. Do not touch the Video Heads during servicing.

Reassembly Notes

1. Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing.
2. **Alignment of Upper Cylinder Unit**
   1) When installing, make sure that the hole on the Upper Cylinder is aligned with the indentation on the Lower Cylinder.
   2) After installing, perform the "Tape Interchangeability Adjustment/Confirmation Procedures."

Opener Piece, Pinch Arm Unit, Motor Block Ass'y, and Audio Control Head Unit

Disassembly Procedure

1. Remove the Opener Piece by pulling it upward while releasing 2 Locking Tabs (A).
2. Pull up on the Pinch Arm Unit.
3. Release 3 Locking Tabs (B) and remove Screw with Washer (C). Then, remove the Motor Block Ass'y and Audio Control Head Unit.

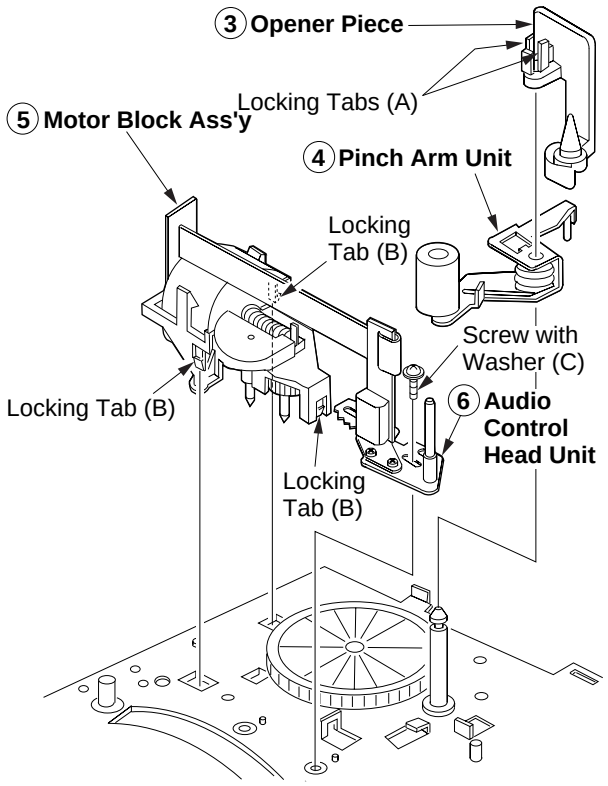


Fig. J4

Reassembly Notes

1. **Installation of Audio Control Head Unit**
   1) Install the Audio Control Head Unit before Motor Block Ass'y.
   2) After installing, perform the "Tape Interchangeability Adjustment/Confirmation Procedures."

Main Cam Gear and Drive Rack Arm

Disassembly Procedure

1. Remove the Main Cam Push Nut. (Refer to Note.)
2. Pull up on the Main Cam Gear.
3. Turn the Drive Rack Arm fully counterclockwise as shown.
4. Pull up on the Drive Rack Arm.

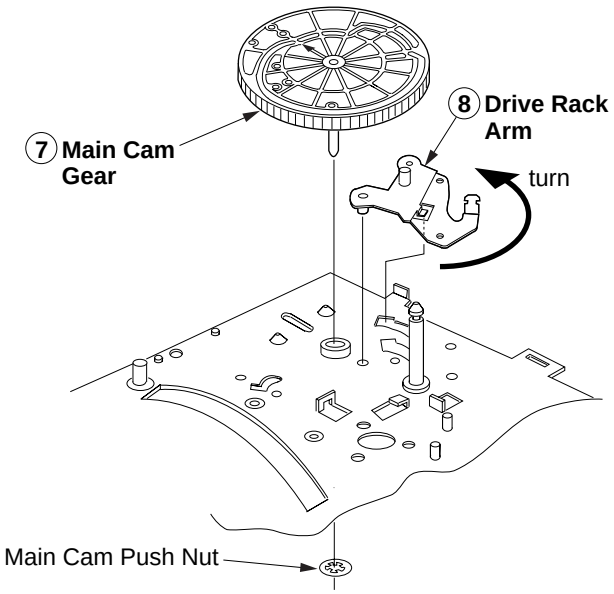


Fig. J5-1

Note:
When removing the Main Cam Push Nut, use a screwdriver etc.

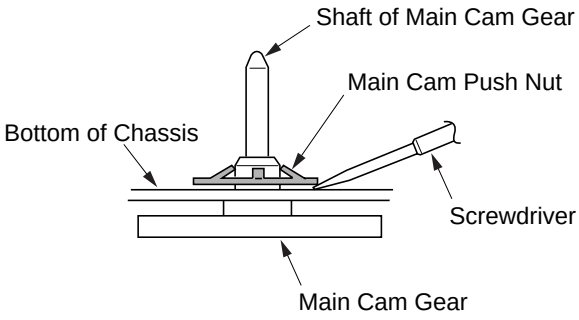


Fig. J5-2

Reassembly Notes

1. **Alignment of Main Cam Gear and Drive Rack Arm**
   1) Install the Drive Rack Arm so that the hole (A) is aligned with the hole on chassis as shown (Through hole (A)).
   2) Install the Main Cam Gear so that the 2 holes (B) marked "E" are aligned with the hole on chassis as shown (Through hole (B)). ("E" indicates the EJECT position.)

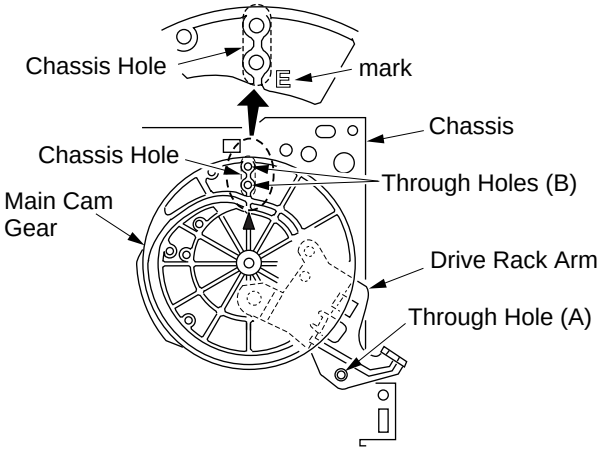


Fig. J5-3

2. **Installation of Main Cam Gear and Main Cam Push Nut**
   1) Position the chassis upside down placing a Support under the Main Cam Gear.
   Install the Main Cam Push Nut with Needlenose Pliers etc. so that it is flush with the chassis.

   There may be some slight scratches on the Shaft of Main Cam Gear, when removing the Main Cam Gear. In case that the Main Cam Gear can be installed securely without tottering, it is fine to use the one. If any tottering, replace a new one.

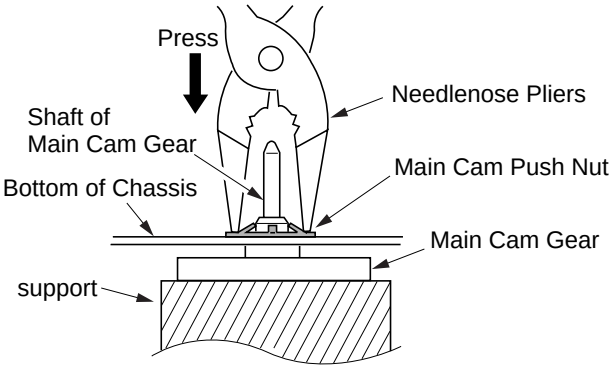


Fig. J5-4

3. Main Cam Push Nut is not reusable. If removed, install a new one.

Main Lever

Disassembly Procedure

1. Release 2 Locking Tabs (C) and Locking Tab (D). Then, remove the Main Lever.

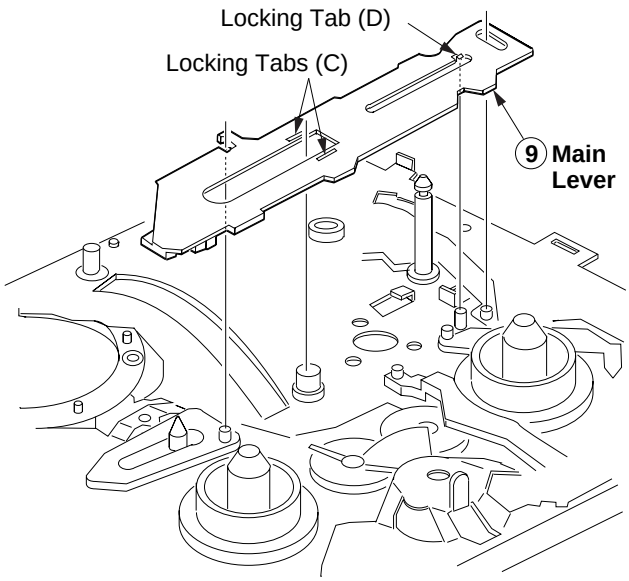


Fig. J6-1

Reassembly Notes

1. **Confirmation of Main Lever**
   1) Confirm that bosses and shafts are set properly after installation of Main Lever.

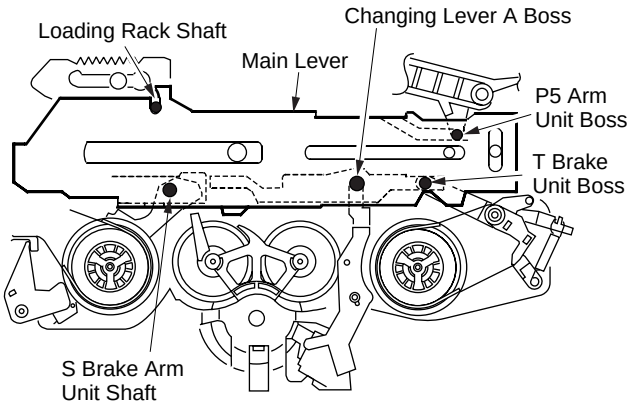


Fig. J6-2

P5 Arm Unit and Main Lever Drive Arm

Disassembly Procedure

1. Pull up on the P5 Arm Unit.
2. Turn the Main Lever Drive Arm fully counterclockwise as shown.
3. Pull up on the Main Lever Drive Arm.

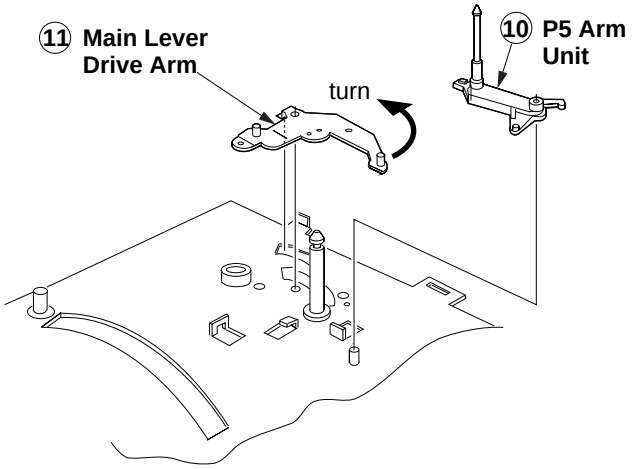


Fig. J7-1

Reassembly Notes

1. **Alignment of Main Lever Drive Arm**
   1) Install the Main Lever Drive Arm so that the hole (C) is aligned with the hole on the Chassis as shown (Through hole (C)).

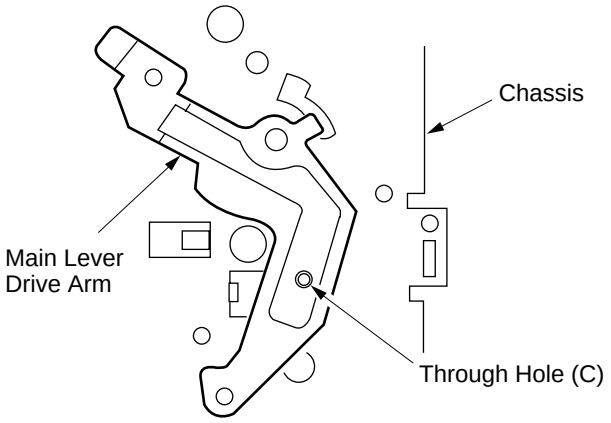


Fig. J7-2

T Brake Unit, Changing Lever A, and T Reel Table

Disassembly Procedure

1. Remove the T Brake Unit while releasing Locking Tab (E) located under the chassis.
2. Remove Cut Washer (A). Then, pull up on the Changing Lever A and remove.
3. Pull up on the T Reel Table.

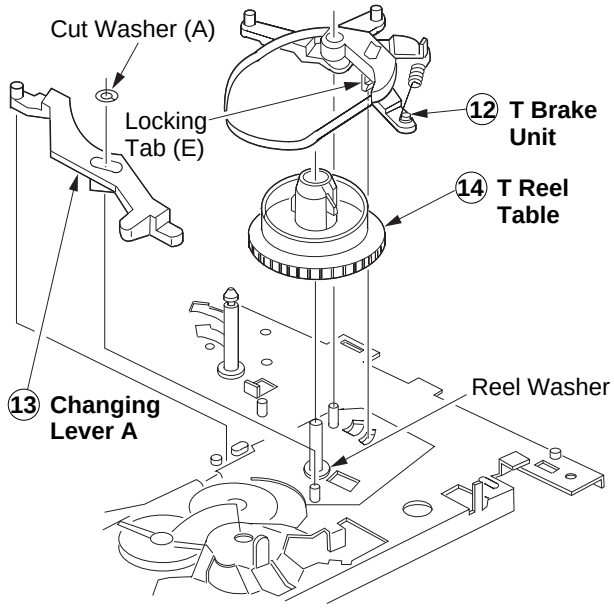


Fig. J8-1

Reassembly Notes

1. **How to distinguish between S Reel Table and T Reel Table**

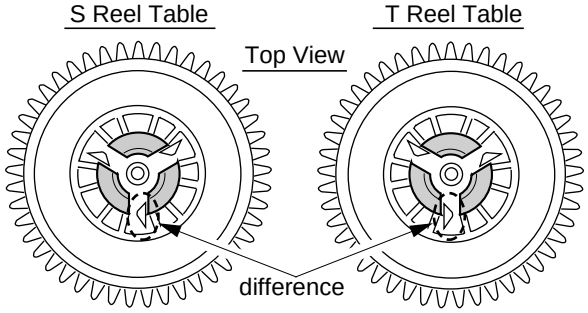


Fig. J8-2

2. **Adjustment of T Reel Table**
   1) After installing, perform the "Reel Table Height Adjustment Procedures."
3. Be careful not to lose the Reel Washer under the T Reel Table.
4. Cut Washer (A) is not reusable. If removed, install a new one.

Full Erase Head, Tension Arm Unit, S Spring Arm, and S Reel Table

Disassembly Procedure

1. Turn the Full Erase Head fully counterclockwise as shown. Then remove it.
2. Unhook Spring (A).
3. Remove the Tension Arm Unit by pulling it up while releasing 2 Locking Tabs (F).
4. Remove the S Spring Arm while releasing Locking Tab (G).
5. Pull up on the S Reel Table.

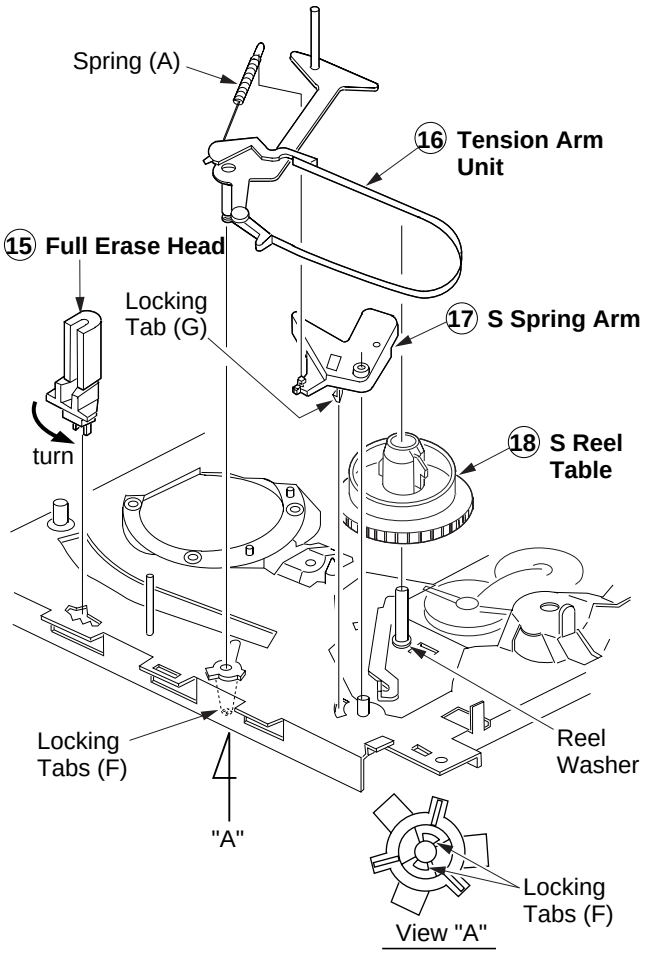


Fig. J9

Reassembly Notes

1. **Adjustment of S Reel Table**
   1) After installing, perform the "Reel Table Height Adjustment Procedures".
2. Be careful not to lose the Reel Washer under the S Reel Table.
3. **Adjustment of Tension Arm Unit**
   1) After installing, perform the "Tension Post Adjustment Procedures."

S Brake Arm Unit, Main Lever Guide, Loading Post Base -S, and Loading Post Base -T Unit

Disassembly Procedure

1. Remove the S Brake Arm Unit while releasing 2 Locking Tabs (H).
2. Remove the Main Lever Guide while releasing Locking Tab (I).
3. Slide the Loading Post Base -S and T Units to the end of the guide slots to remove.

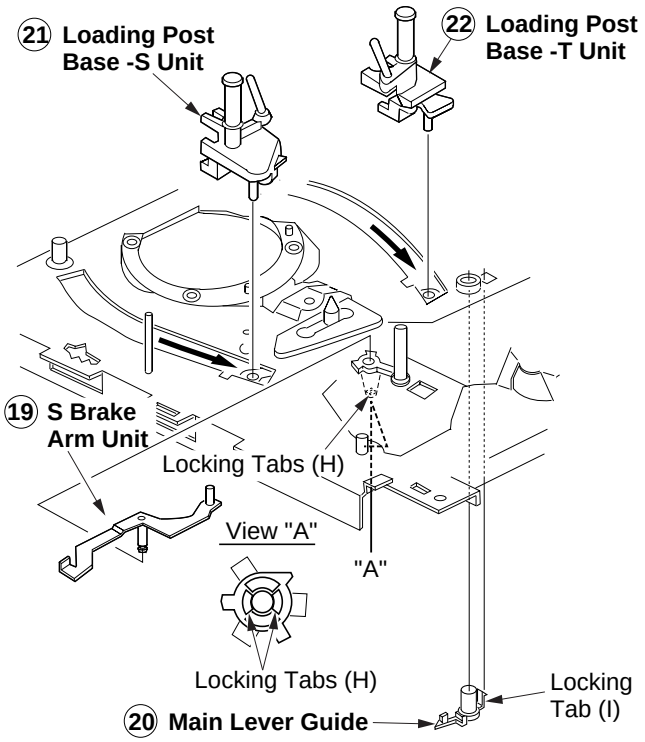


Fig. J10

Reassembly Notes

1. **Adjustment of Loading Post Base -S Unit and Loading Post Base -T Unit**
   1) After installing, perform the "P2 and P3 Post Height Adjustment Procedures" and "Tape Interchangeability Adjustment/Confirmation Procedures."

Capstan Rotor Unit, Capstan Holder Unit, and SS Brake Arm Unit

Disassembly Procedure

1. Remove the Capstan Belt.
2. Cut the Stopper with a cutter to remove.
3. Pull up on the Capstan Rotor Unit.
4. Remove 3 Screws (B). Then remove the Capstan Holder Unit.
5. Unhook Spring (B).
6. Turn the SS Brake Arm Unit so that the Tab (A) lines up with the niche. Then, remove the SS Brake Arm Unit.

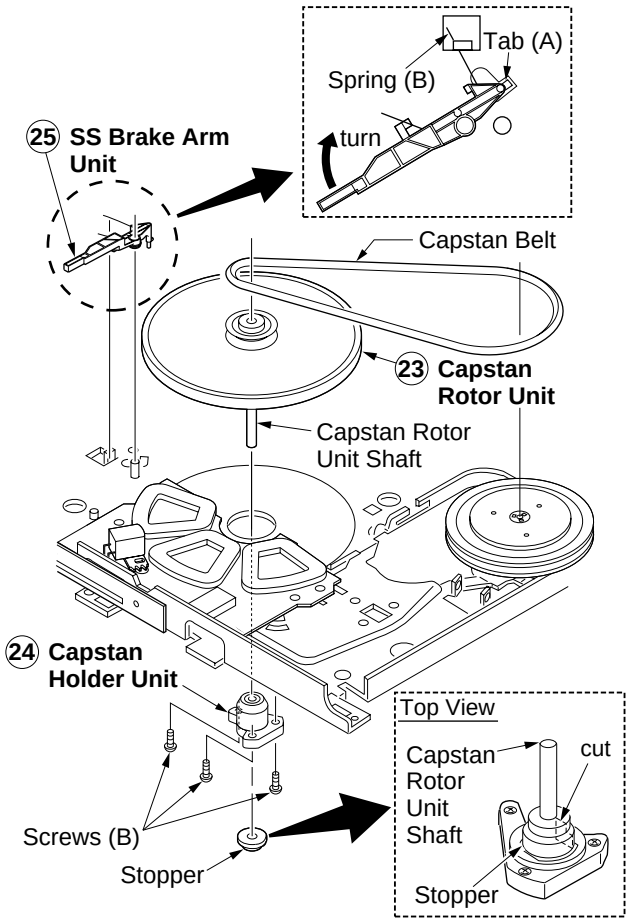


Fig. J11-1

Reassembly Notes

1. **Installation of Capstan Rotor Unit**
   1) Insert the Capstan Rotor Unit Shaft to the hole of the Capstan Holder Unit.
   2) Place a support under the Capstan Rotor Unit shaft. Install the Stopper. Be careful not to scratch the shaft or Capstan Holder Unit.
   3) Remove the support. Press the top end of the shaft down so that the Stopper is properly positioned. You should be able to move the shaft up and down slightly when properly positioned.

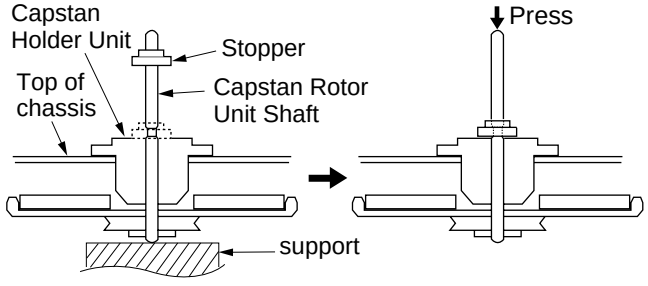


Fig. J11-2

2. **Capstan Rotor Kit**
   Capstan Rotor Unit, Capstan Holder Unit, and Stopper are supplied as a Capstan Rotor Kit only. (Kit No. VXPS0382K) They are not reusable. If removed, install a new one. Because even invisible scratches on the Shaft of Capstan Rotor Unit and the Capstan Holder Unit, made when cutting the Stopper, could cause unstable tape path running.

Junction C.B.A., Capstan Stator Unit, Sub Rotor, and PCB Holder

Disassembly Procedure

1. Remove 2 Screws (C).
2. Unsolder P2532 on the Junction C.B.A. Then, remove the Junction C.B.A.
3. Remove Screw (D) and 2 Screws with Washers (D), (E). Then, remove Capstan Stator Unit, Sub Rotor, and PCB Holder.

CAUTION:

When removing Capstan Stator Unit, avoid touching IC2501 on the Capstan Stator Unit because it is **HOT** during operation.

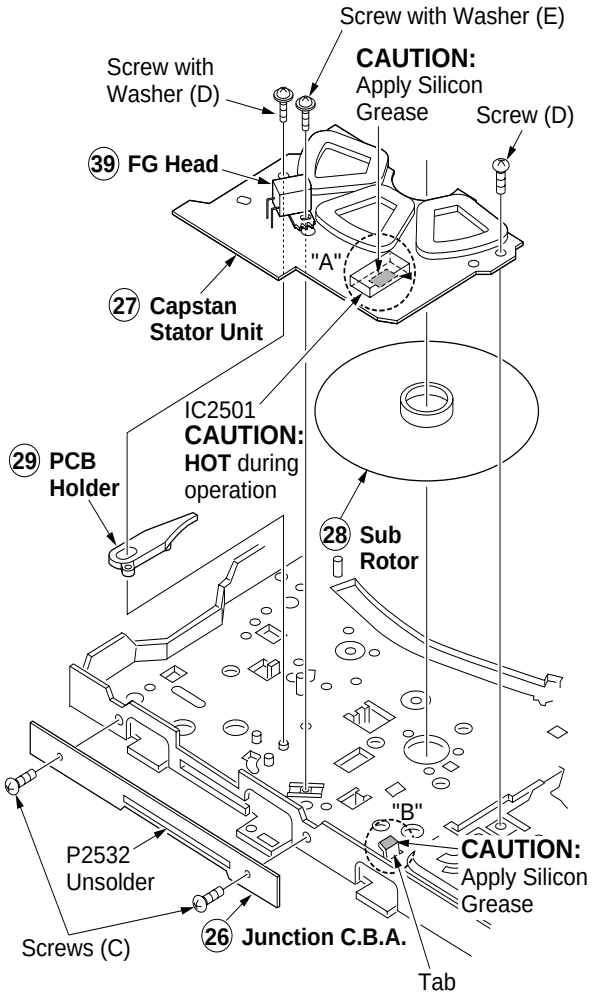


Fig. J12-1

Reassembly Notes

1. **Application of Sillicon Grease**

CAUTION

When installing the IC2501 or Capstan Stator Unit, be sure to apply Silicon Grease (VFK1301) as shown. Be careful not to touch other parts with greased portion to prevent grease depletion.

Silicon Grease Application

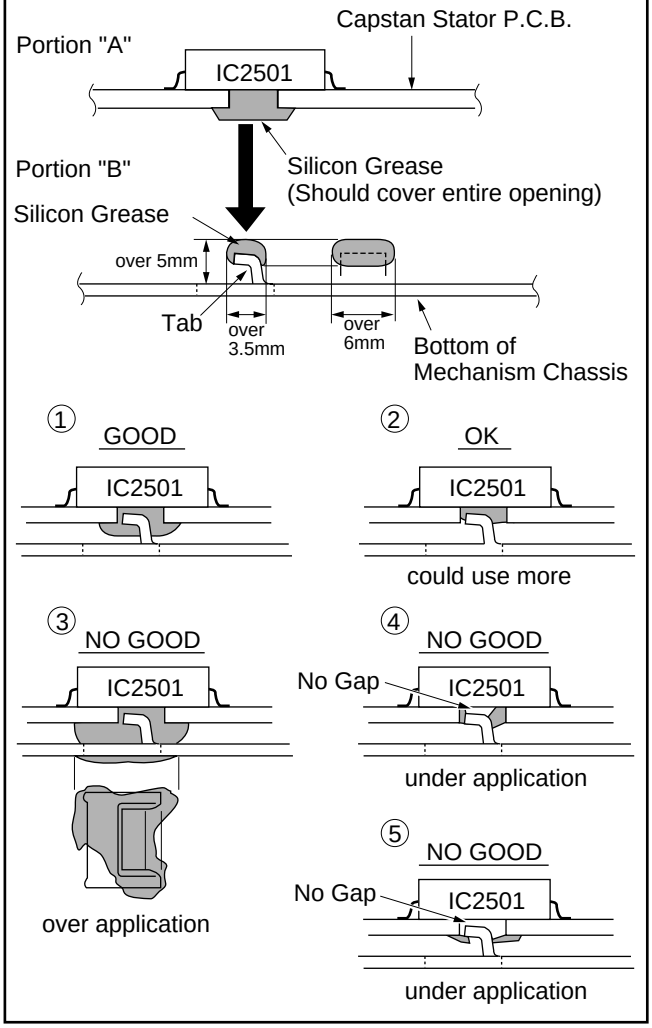


Fig. J12-2

2. **Capstan Stator Kit**
   1) Capstan Stator Unit, Capstan Rotor Unit, Capstan Holder Unit, and Stopper are supplied as a Capstan Stator Kit only (Kit No. VEMS0316K).
   However, IC2501(AN3845SC) is available separately as a replacement part.
   Capstan Rotor Unit, Capstan Holder Unit, and Stopper are not reusable. Install all new parts.
   Because even invisible scratches on the Capstan Rotor Unit shaft and the Capstan Holder Unit, made when cutting the Stopper, could cause tape path instability.
3. **Adjustment of FG Head**
   1) After installing, perform the "FG Head gap Adjustment" procedures.

T Loading Arm Unit and S Loading Arm Unit

Disassembly Procedure

1. Remove the T Loading Arm Unit by pulling it up while releasing Locking Tab (J).
2. Pull up on the S Loading Arm Unit.

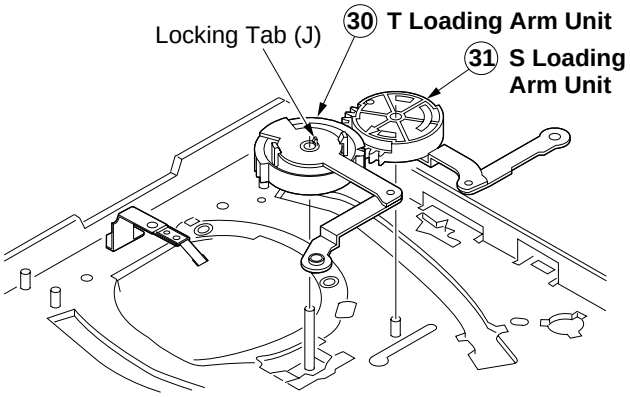


Fig. J13-1

Reassembly Notes

1. **Alignment of T Loading Arm Unit and S Loading Arm Unit**
   1) Slide the Loading Rack so that the holes on it and the holes on chassis line up properly.
   2) Install the S Loading Arm Unit onto the Chassis.
   3) Install the T Loading Arm Unit so that the triangle-shaped indent is aligned with the arrow on the S Loading Arm Unit as shown. Confirm that each of holes on the T Loading Arm Unit, Chassis, and the Loading Rack are through holes.

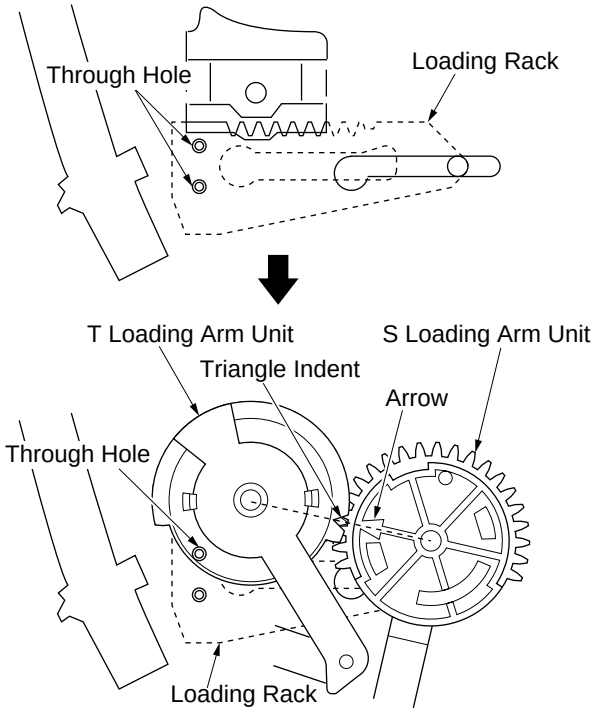
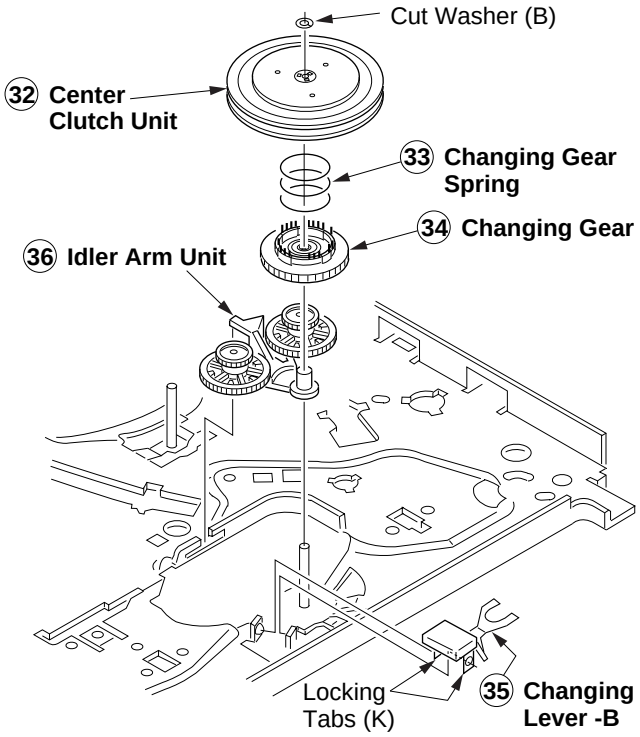


Fig. J13-2

Center Clutch Unit, Changing Gear Spring, Changing Gear, Changing Lever-B, and Idler Arm Unit

Disassembly Procedure

1. Remove Cut Washer (B). Then remove the Center Clutch Unit, Changing Gear Spring, and Changing Gear.
2. Remove Changing Lever -B while releasing 2 Locking Tabs (K).
3. Pull up on the Idler Arm Unit.



Flg. J14-1

Reassembly Notes

1. **Installation of Center Clutch Unit**
   1) Fit the Center Clutch Unit into the Changing Gear as shown.

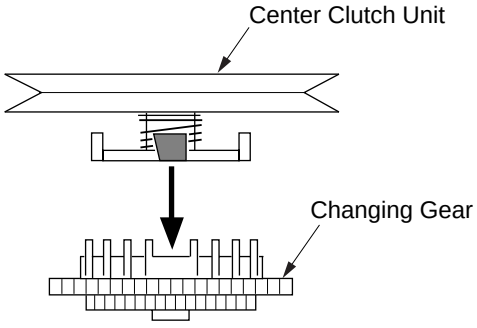


Fig. J14-2

2. Cut Washer (B) is not reusable. If removed, install a new one.

Loading Rack Unit

Disassembly Procedure

1. Slide the Loading Rack Unit as indicated by the arrow. Then, pull up on the Loading Rack Unit.

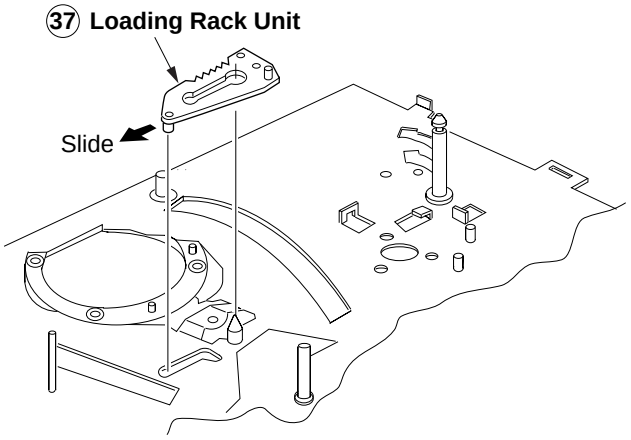


Fig. J15

DISASSEMBLY/ASSEMBLY PROCEDURES OF CASSETTE UP ASS'Y

Top Plate, Wiper Arm Unit, and Holder Unit

Disassembly Procedure

1. Remove Top Plate by releasing 2 Locking Tabs (A) on the left side and 2 Locking Tabs (B) on the right side of the Top Plate.
2. Remove Wiper Arm Unit by releasing 2 Locking Tabs (C). Then, remove the Holder Unit.

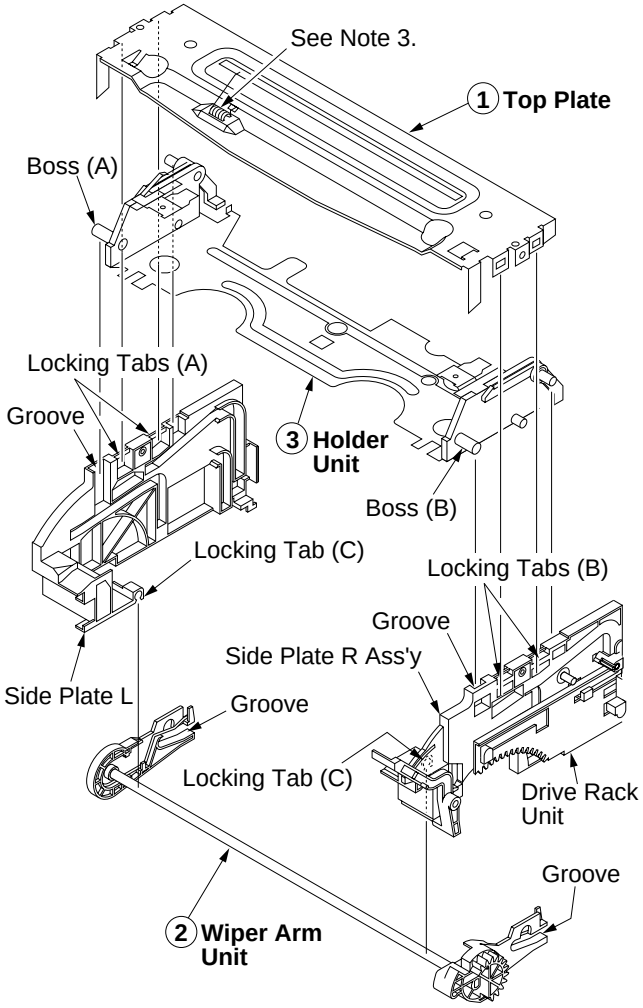


Fig. K1-1

Reassembly Notes

1. **Alignment of Wiper Arm Unit and Drive Rack Unit**
   1) Slide the Drive Rack Unit to the far right as indicated by the arrow.
   2) Install the Wiper Arm Unit so that the hole on the Wiper Arm Unit is aligned with the hole on the Drive Rack Unit.

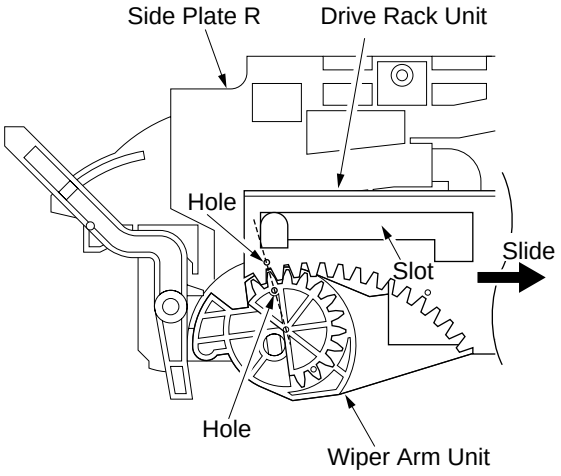


Fig. K1-2

2. **Installation of Holder Unit**
   1) Turn the Wiper Arm Unit so that the grooves on each end are aligned with the grooves on Side Plate L and R.
   2) Insert Holder Unit boss (A) and (B) into the grooves.
   3) Finally, in the EJECT Position, confirm that the protrudence on the Wiper Arm Unit is aligned with the indentation on the Drive Rack Unit.

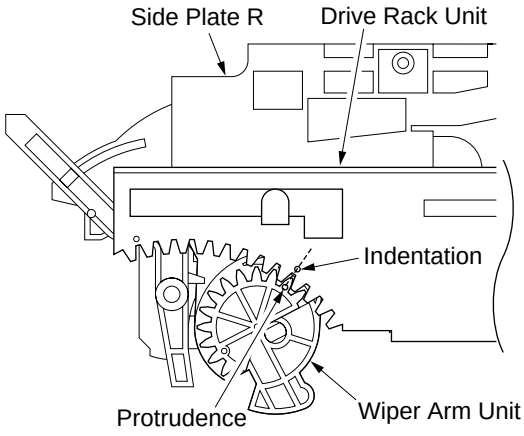


Fig. K1-3

3. As an ESD countermeasure, make sure the spring is in contact with Top Cover.

Sensor Cover, Opener Lever, and Drive Rack Unit

Disassembly Procedure

1. Remove the Sensor Cover by releasing Locking Tab (D).
2. Remove the Opener Lever by releasing Locking Tab (E). Then remove the Drive Rack Unit.

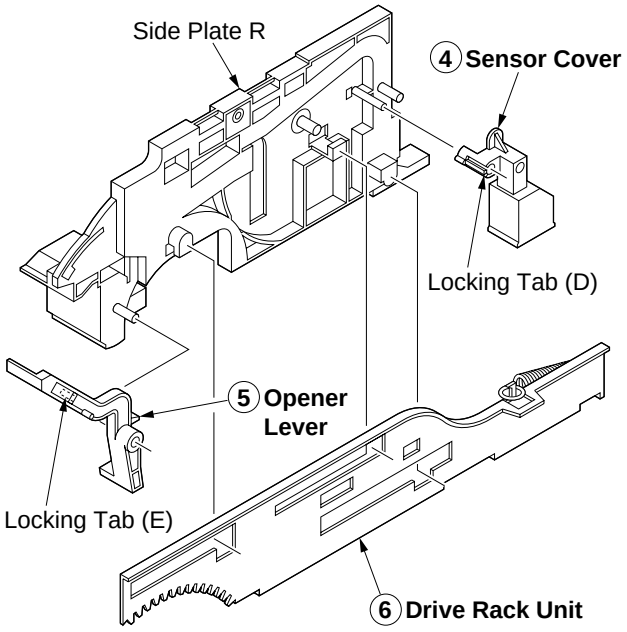


Fig. K2

REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

1. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.
2. **IMPORTANT SAFETY NOTICE**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.
3. SPECIAL NOTE
   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.
4. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.
6. The parts which "AKEI" is indicated in Remarks column will be supplied from AKEI factory.

Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.
2. Capstan Rotor Unit, Capstan Holder Unit, and Stopper are supplied as Capstan Rotor Kit (Ref No. 51) only.
3. Capstan Stator Unit, Capstan Rotor Unit, Capstan Holder Unit, and Stopper are supplied as a Capstan Stator Kit (Ref No. 52) only. However, IC2501 (AN3845SC) is available separately as a replacement part. When installing the IC2501 or Capstan Stator unit, be sure to apply Silicon Grease (VFK1301). Refer to "Capstan Stator Unit" of "DISASSEMBLY/ASSEMBLY PROCEDURES OF MECHANISM" section.
4. Since the UHF/VHF TUNER/TV DEMODULATOR UNIT (Ref No. E21) has already been pre-adjusted at the factory, do not try to adjust the UHF/VHF TUNER/TV DEMODULATOR UNIT. The UHF/VHF TUNER/TV DEMODULATOR UNIT replacement part is available as a complete assembly unit only.
5. The Infrared Remote Control Unit (Ref No. 123) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit. However, the battery cover is available separately as a replacement part.
6. Cut Washers (Ref No. 416 and 417) are not reusable. If removed, install a new one.
7. Main Cam Push Nut (Ref No. 414) is not reusable. If removed, install a new one.

Electrical Replacement Notes

1. Item numbers with capital letter E (Example: E1, E2,…) in the Ref. No. column are shown in the exploded views. The E item numbers are also printed on the same page at the top of the column.
2. The parts with "■" mark are supplied individually or as a unit. The parts with "▲" mark are supplied individually or as a unit, and are included in "■" parts listed directly above in the parts list.
3. Unless otherwise specified;
   All resistors are in ohms, 1/4W, +/-5%, carbon,
   K = 1,000 ohm, M = 1,000 kohm.
   All capacitors are in microfarads, P = micromicrofarad, +/-10%.
   All coils are in microhenries, M = 1,000 microhenry, +/-10%.
4. Abbreviation
   RTL: Retention Time Limited
   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
   NR: Non Repairable Board Ass'y
   MGF CHIP: Metal Glaze Film Chip
   C CHIP: Ceramic Chip
   COMPLX CMP: Complex Component
   W FLMPRF: Wirewound Flameproof
   C.B.A.: Circuit Board Assembly
   P.C.B.: Printed Circuit Board
   E.S.D.: Electrostatically Sensitive Devices
5. SERVICE OF CHIP PARTS
   When servicing chip parts, please use a soldering iron of less than 30 watts. Refer to "IC, TRANSISTOR AND CHIP PART INFORMATION" page.
6. The parts with "●" are 0 ohm resistor. When replacing, a wire can be substituted for a 0 ohm resistor.
7. IC6001 replacement note:

products	replacement parts
MN675058A5P2 MN675058A5P1 MN675058A5P	MN675058A5P2

COMPARISON CHART OF MODELS & MARKS

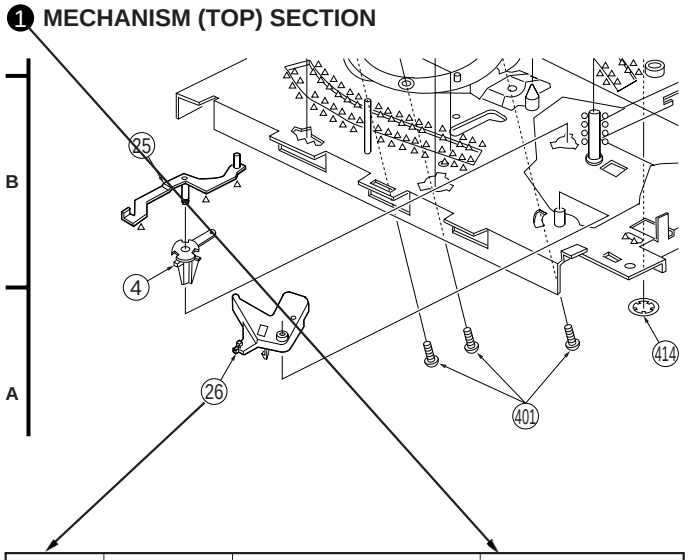
MODEL	MARK
PV-M1327	A
VV1307	B
VV1317W	C
PV-M1347	D
PV-M1357W	E
PV-M2037	F
VV2007	G
VV2017W	H
PV-M2047	I

MECHANICAL REPLACEMENT PARTS LIST

<The complete Exploded Views are shown in this manual.>

EXPLODED VIEWS

❶ MECHANISM (TOP) SECTION



Ref. No.	Part No.	Part Name	Remarks
		MECHANISM PARTS ON CHASSIS	
			(Section No.)
1	VBSS0032	FULL ERASE HEAD	1
2	VXKS0851	MOTOR BLOCK ASS'Y	1
3	VDBS0349	TENSION ARM BOSS	1
4	VDBS0351	S BRAKE ARM BOSS	1
5	VMDS0971	OPENER PIECE	1
6	VDGS0428	WORM WHEEL GEAR	1
7	VDGS0429	INTERMEDIATE GEAR	1
8	VDGS0430	MAIN CAM GEAR	1
9	VDRS0054	S REEL TABLE	1
10	VDRS0055	T REEL TABLE	1
11		CYLINDER UNIT	
	VEGS0395	(A,B,C,F,G,H)	1
	VEGS0397	(D,E,I)	1
12	VEHS0559	AUDIO CONTROL HEAD UNIT	1
13		UPPER CYLINDER UNIT	
	VEHS0553	(A,B,C,F,G,H)	1
	VEHS0554	(D,E,I)	1
14	VJSS0882	CONNECTOR 8P	1
15	VJWS6JB100LL	COMMU CABLE W/OUT PLUG,12V	1
16	VXDS0198	LOADING POST BASE-S UNIT	1
17	VXDS0195	LOADING POST BASE-T UNIT	1
18	VXLS1058	PINCH ARM UNIT	1
19	VMLS0978	MAIN LEVER DRIVE ARM	1
20	VXLS1063	P5 ARM UNIT	1
21	VMLS0976	DRIVE RACK ARM	1
22	VMLS0972	CHANGING LEVER A	1
23	VMLS0977	MAIN LEVER	1
24	VXLS1072	LOADING RACK UNIT	1
25	VXLS1061	S BRAKE ARM UNIT	1
26	VMLS0982	S SPRING ARM	1
27	VXLS1062	T BRAKE UNIT	1
28	VMBS1150	T BRAKE SPRING	1
29	VXLS1074	TENSION ARM UNIT	1
30	VMBS1164	TENSION SPRING	1
31	VMCS0078	PCB PLATE	1
35		RUBBER FOOT	
	VKAS0019	(A,D,E)	4
38	TES7612	CASSETTE DOOR SPRING	4
41	VXPS0379	CENTER CLUTCH UNIT	2
42	VMBS1151	CHANGING GEAR SPRING	2
43	VDGS0425	CHANGING GEAR	2
44	VXLS1053	IDLER ARM UNIT	2
45	VMDS0985	PCB HOLDER	2
46	VMDS0982	MAIN LEVER GUIDE	2
47	VMLS0973	CHANGING LEVER B	2

Ref. No.	Part No.	Part Name	Remarks
48		COLOR PICTURE TUBE SUB UNIT	
	TXFVB02135	(A,D,E)	⚠ 4 AKEI
	LXQVB2137S	(B,C)	⚠ 4 AKEI
	TXFVB02206	(F,I)	⚠ 4 AKEI
	LXQVB2207Q	(G,H)	⚠ 4 AKEI
49	VXLS1054	S LOADING ARM UNIT	2
50	VXLS1056	T LOADING ARM UNIT	2
51	VXPS0382K	CAPSTAN ROTOR KIT	2
52	VEMS0316K	CAPSTAN STATOR KIT	2
53	VBKS0040	FG HEAD	2
54	VDVS0087	CAPSTAN BELT SQUARE,ELASTOMER	2
		2MM	
55	VMAS2135	SUB ROTOR	2
56		SHEET,POLYETHYLENE	
	TPE794012	(A,B,C,D,E)	6 AKEI
	TPE794011	(F,G,H,I)	6 AKEI
57	VXBS0061	GROUNDING PLATE UNIT	2
58	VXLS1070	SS BRAKE ARM UNIT	2
59	VMBS1155	SS BRAKE SPRING	2
61	VXYS1172	CASSETTE UP ASS'Y	3
62	VMAS2131	TOP PLATE	3
63	VMBS1159	GROUNDING SPRING	3
64	VMDS0976	SIDE PLATE L	3
65	VMDS0974	SIDE PLATE R	3
66	VMDS0979	SENSOR COVER	3
67	VMLS0987	OPENER LEVER	3
68	VXLS1064	DRIVE RACK UNIT	3
69	VXAS4404	HOLDER UNIT	3
70	VXLS1065	WIPER ARM UNIT	3
71		FRONT CABINET ASS'Y	
	LXQKY1137P	(A)	4 AKEI
	LXQKY1137Q	(B)	4 AKEI
	LXQKY1137QW	(C)	4 AKEI
	LXQKY1137GP	(D)	4 AKEI
	LXQKY2137GP	(E)	4 AKEI
	LXQKY2207P	(F)	4 AKEI
	LXQKY2207Q	(G)	4 AKEI
	LXQKY2207QW	(H)	4 AKEI
	LXQKY2207GP	(I)	4 AKEI
72		CASSETTE DOOR-LID	
	LKK688009A	(A)	4 AKEI
	LKK688010A	(B)	4 AKEI
	LKK688011A	(C)	4 AKEI
	LKK688007A	(D)	4 AKEI
	LKK688008A	(E)	4 AKEI
	LKK688003A	(F)	4 AKEI
	LKK688004A	(G)	4 AKEI
	LKK688006A	(H)	4 AKEI
	LKK688002A	(I)	4 AKEI
73		REAR COVER	
	LKV60201A	(A,B,D)	4 AKEI
	LKV60202A	(C,E)	4 AKEI
	LKV60101A	(G)	4 AKEI
	LKV60102A	(H)	4 AKEI
		REAR COVER UNIT	
	LXQKV1207GP	(F,I)	4 AKEI
74		REAR COVER PIECE	
	TKK778575	(A,B,C,D,E)	4 AKEI
77		SWIVEL BRACKET	
	LKG60200A	(A,D)	4 AKEI
	LKG60201A	(E)	4 AKEI
78		SWIVEL	
	LKG60100A	(A,D,E)	4 AKEI
81		POWER BUTTON	
	LBX61023A	(A,D)	4 AKEI
	LBX61009A	(B)	4 AKEI
	LBX61027A	(C)	4 AKEI
	LBX61031A	(E)	4 AKEI
	LBX61001A	(F,I)	4 AKEI
	LBX61005A	(G)	4 AKEI
	LBX61017A	(H)	4 AKEI
82		CH VOL BUTTON	
	LBX61025A	(A,D)	4 AKEI
	LBX61010A	(B)	4 AKEI
	LBX61028A	(C)	4 AKEI
	LBX61033A	(E)	4 AKEI
	LBX61003A	(F,I)	4 AKEI
	LBX61006A	(G)	4 AKEI
	LBX61018A	(H)	4 AKEI

Ref. No.	Part No.	Part Name	Remarks
83		VCR BUTTON	
	LBX61026A	(A,D)	4 AKEI
	LBX61011A	(B)	4 AKEI
	LBX61029A	(C)	4 AKEI
	LBX61034A	(E)	4 AKEI
	LBX61004A	(F,I)	4 AKEI
	LBX61007A	(G)	4 AKEI
	LBX61019A	(H)	4 AKEI
84		OPERATION BUTTON UNIT	
	LXQBX1137P	(A)	4 AKEI
	LXQBX1137Q	(B)	4 AKEI
	LXQBX1137QW	(C)	4 AKEI
	LXQBX1137GP	(D)	4 AKEI
	LXQBX2137GP	(E)	4 AKEI
	LXQBX1207P	(F,I)	4 AKEI
	LXQBX1207Q	(G)	4 AKEI
	LXQBX1207QW	(H)	4 AKEI
90		BADGE,ACRYL BUTADIENE STYRENE	
		RESIN	
	TBM153023	(A,D,E)	4 AKEI
	TBM153022	(F,I)	4 AKEI
91		TOP SHIELD PLATE ASS'Y	
	LXQUS1137GP	(A,B,C,D,E)	5 AKEI
	LXQUS1207GP	(F,G,H,I)	5 AKEI
92	LASUSP5904A	SPEAKER	4 AKEI
93	VEKS5534	SPEAKER LEAD ASS'Y	4
94		DEFLECTION YOKE	
	TLY26333F5	(A,D,E)	⚠ 4 AKEI
	OR TLY26391S2		⚠ AKEI
	LLY6307K	(B,C)	⚠ 4 AKEI
	LLY2303F1	(F,I)	⚠ 4 AKEI
	OR LLY6305S1		⚠ AKEI
	LLY6306F	(G,H)	⚠ 4 AKEI
	OR LLY6306S		⚠ AKEI
95		CONVERGENCE MAGNET	
	LLL62001	(A,B,C,D,E,G,H)	4 AKEI
96	LML69002A	CLAMPER	5 AKEI
97	VMXS0869	DOUBLE LOCKING SPACER	5
98	TMK77737	CUSHION	5
100		BATTERY COVER	
	VKFS2221	(A,B,D,F,G,I)	6
	VKFS2223	(C,E,H)	6
118		BAG,POLYETHYLENE	
	TPE744031	(A,B,C,D,E)	6 AKEI
	TPE744035	(F,G,H,I)	6 AKEI
119	LMH65001A	DY ADJUSTMENT RUBBER	4 AKEI
121		PACKING CASE,PAPER	
	LPH610105A	(A)	6 AKEI
	LPH610103A	(B)	6 AKEI
	LPH610104A	(C)	6 AKEI
	LPH610101A	(D)	6 AKEI
	LPH610102A	(E)	6 AKEI
	LPH640102A	(F)	6 AKEI
	LPH640103A	(G)	6 AKEI
	LPH640104A	(H)	6 AKEI
	LPH640101A	(I)	6 AKEI
122		FAN BAG	
	VQFS3303	(A)	6 AKEI
	VQFS3308	(B,C)	6 AKEI
	VQFS3304	(D,E)	6 AKEI
	VQFS3301	(F)	6 AKEI
	VQFS3302	(G,H)	6 AKEI
	VQFS3299	(I)	6 AKEI
123		INFRARED REMOTE CONTROL UNIT	
	VSQS1491	(A)	6
	VSQS1485	(B,G)	6
	VSQS1486	(C,H)	6
	VSQS1481	(D,F)	6
	VSQS1482	(E)	6
	VSQS1483	(I)	6
125		TOP CUSHION RIGHT,STYROFOAM	
	LPJ61005A	(A,B,C,D,E)	6 AKEI
126		TOP CUSHION LEFT,STYROFOAM	
	LPJ61006A	(A,B,C,D,E)	6 AKEI
127		TOP CUSHION FRONT-L,STYROFOAM	
	LPJ61001A	(F,G,H,I)	6 AKEI
128		TOP CUSHION FRONT-R,STYROFOAM	
	LPJ61002A	(F,G,H,I)	6 AKEI

Ref. No.	Part No.	Part Name	Remarks
129		TOP CUSHION REAR-L,STYROFOAM	
	LPJ61003A	(F,G,H,I)	6 AKEI
130		TOP CUSHION REAR-R,STYROFOAM	
	LPJ61004A	(F,G,H,I)	6 AKEI
131		BOTTOM CUSHION FRONT,STYROFOAM	
	LPJ62005A	(A,B,C,D,E)	6 AKEI
	LPJ62001A	(F,G,H,I)	6 AKEI
132		BOTTOM CUSHION REAR,STYROFOAM	
	LPJ62006A	(A,B,C,D,E)	6 AKEI
	LPJ62002A	(F,G,H,I)	6 AKEI
153	TMM77412	CLAMPER	4 AKEI
169		PERMALLOY MAGNETIC STRIP	
	TSM10032-2	(F,G,H,I)	4 AKEI
		SCREWS AND WASHERS	
401	VHDS0475	SCREW,STEEL	1
402	XTV3+8FR	TAPPING SCREW,FE	5
404	VHDS0472	SCREW,FE	5
407	XYN26+C5	SCREW W/WASHER,STEEL	2
408	XYN2+J5FZ	SCREW W/WASHER,STEEL	2
410	VHDS0498	SCREW W/WASHER,STEEL	1
414	VHNS0070	MAIN CAM PUSH NUT,STEEL	1
415	VMXS0925	REEL WASHER,PBT	1
416	VMXS0922	CUT WASHER,NYLON	2
417	VMXS0924	CUT WASHER,NYLON	1
420	XYC3+FG10FR	SCREW,FE	5
424	XYC26+CF6J	SCREW W/WASHER,STEEL	1
429	VHDS0491	SCREW W/WASHER,STEEL	1
430	XTV26+6FFZJ	TAPPING SCREW,STEEL	2
431	XTV26+6FJ	TAPPING SCREW,STEEL	1,2
432	XTV3+8JR	TAPPING SCREW W/WASHER,FE	5
435	XSN26+4	SCREW,STEEL	2
443	XTV4+12A	TAPPING SCREW,FE	4
445	THE492-4	SCREW WITH WASHER,FE	4
446	XTV4+16A	TAPPING SCREW,FE	4 AKEI
449	VHDS0493	TAPPING SCREW,STEEL	5
460	XTN4+12A	TAPPING SCREW,FE	5
		SERVICE FIXTURES AND TOOLS	
	VMFS0003H6	VHS ALIGNMENT TAPE	
	VFKS0009	REEL TABLE HEIGHT FIXTURE	
	VFKS0010	POST ADJUSTMENT PLATE	
	VFKS0081	GREASE	
	VFK0329	POST ADJUSTMENT DRIVER	
	VFK1301	SILICON GREASE	
	VFK27	HEAD CLEANING STICK	
	VFK0330	H-POSITION ADJUSTMENT DRIVER	
	TSM10032-2	PERMALLOY MAGNETIC STRIP	
	VUZS0002	EXTENSION CABLE KIT	
	VUVS0001	MODE SELECT SW ASS'Y	
	VUVS0002	EXTENSION CABLE -1	
	VUVS0003	EXTENSION CABLE -2	
		(FOR Hi-Fi MODEL)	
	VUVS0004	EXTENSION CABLE -2	
		(FOR 4 HEAD MODEL)	
	VUVS0005	EXTENSION CABLE -2	
		(FOR 2 HEAD MODEL)	

ELECTRICAL REPLACEMENT PARTS LIST

(E1, E2, E6, E7, E11, E16, E17)

Ref. No.	Part No.	Part Name	Remarks
		PRINTED CIRCUIT BOARD ASSEMBLY	
E1	VEPS3040E1	MAIN C.B.A.	■ E.S.D. RTL AKEI
	(A)		
E1	VEPS3042B1	MAIN C.B.A.	■ E.S.D. RTL AKEI
	(B,C)		
E1	VEPS3040C1	MAIN C.B.A.	E.S.D. RTL AKEI
	(D,E)		
E1	VEPS3040B1	MAIN C.B.A.	■ E.S.D. RTL AKEI
	(F)		
E1	VEPS3042A1	MAIN C.B.A.	■ E.S.D. RTL AKEI
	(G,H)		
E1	VEPS3040A1	MAIN C.B.A.	■ E.S.D. RTL AKEI
	(I)		
E2	VEPS4016A1	TV STEREO C.B.A.	▲ E.S.D. RTL AKEI
	(I)		
E6	VEPS5012Z1	HEAD AMP C.B.A.	■ RTL AKEI
	(A,B,C,F,G,H)		
E6	VEPS5011Z1	HEAD AMP C.B.A.	■ RTL AKEI
	(D,E,I)		
E7	VEPS0A25A	JUNCTION C.B.A.	■ RTL
E11	VEPS4014A1	STEREO AMP C.B.A.	■ RTL AKEI
	(I)		
E16	LRM61002XZ	TV MAIN C.B.A.	■ RTL AKEI
	(A)		
E16	LRM61002ZZ	TV MAIN C.B.A.	■ RTL AKEI
	(B)		
E16	LRM61002ZA	TV MAIN C.B.A.	■ RTL AKEI
	(C)		
E16	LRM61002YZ	TV MAIN C.B.A.	■ RTL AKEI
	(D)		
E16	LRM61002YA	TV MAIN C.B.A.	■ RTL AKEI
	(E)		
E16	LRM61002BZ	TV MAIN C.B.A.	■ RTL AKEI
	(F)		
E16	LRM61002CZ	TV MAIN C.B.A.	■ RTL AKEI
	(G)		
E16	LRM61002CA	TV MAIN C.B.A.	■ RTL AKEI
	(H)		
E16	LRM61002AZ	TV MAIN C.B.A.	■ RTL AKEI
	(I)		
E17	LRP23007YZ	CRT C.B.A.	▲ RTL AKEI
	(A,D,E)		
E17	LRP23007ZZ	CRT C.B.A.	▲ RTL AKEI
	(B,C)		
E17	LRP23007AZ	CRT C.B.A.	▲ RTL AKEI
	(F,I)		
E17	LRP23007BZ	CRT C.B.A.	▲ RTL AKEI
	(G,H)		
		MAIN C.B.A.	■
		(A,D,E,F,I)	
		INTEGRATED CIRCUITS	
IC1001	0N3131-R.KT	IC, LINEAR ERROR V. DET	⚠
IC3001	AN3475FBP	IC, LINEAR VIDEO/AUDIO PROCESS	
IC3201	MN3885S	IC, CCD 1H DELAY	E.S.D.
IC3301	LC8643125957	IC, 8BIT MICROPROCESSOR	E.S.D. AKEI
		OSD/CCV	
IC4151	AN5265	IC, LINEAR AUDIO AMP	
	(A,D,E,F)		
IC5301	AN5367FB	IC, LINEAR Y/C SIGNAL PROCESS	
IC6001	MN675058A5P2	IC, 8BIT MICROPROCESSOR	E.S.D.
IC6002	CNA1801N	REEL SENSOR UNIT	
IC6003	CNA1801N	REEL SENSOR UNIT	
IC6004	24LC01B/PS1	IC, 1K EEP ROM MEMORY	E.S.D.
		TRANSISTORS	
Q1001	2SC4533LP.KT		⚠
	OR 2SC5130LF608		⚠
Q1002	2SD1458		
Q1003	2SD636(Q,R,S)		
Q1004	2SB641(Q,R,S)		

Ref. No.	Part No.	Part Name	Remarks
Q1005	2SB641(R,S)		
Q1051	2SC3852		
Q1052	2SC945A(TP)		AKEI
Q3001	2SB709(R,S)	CHIP	
Q3002	2SD601(R,S)	CHIP	
Q3310	2SD601(R,S)	CHIP	
Q3311	2SB709(R,S)	CHIP	
Q3314	IMX1	COMPLX CMP SI NPN CHIP	
Q3315	UN2112	CHIP	
Q4001	2SB709(R,S)	CHIP	
Q4002	2SD601A(R,S)	CHIP	
Q4003	2SD601A(R,S)	CHIP	
Q4004	UN2213	CHIP	
	(I)		
Q4005	UN2215	CHIP	
Q4006	UN2115	CHIP	
Q4101	2SC945A(TP)		AKEI
Q4153	2SD2259		
	(A,D,E,F)		
Q4154	UN2212	CHIP	
Q5301	2SD601(R,S)	CHIP	
Q5302	2SD601(R,S)	CHIP	
Q5601	2SD601(R,S)	CHIP	
Q5901	2SD2259		
Q5931	2SD601(R,S)	CHIP	
Q5951	2SB709(R,S)	CHIP	
Q5952	2SD601(R,S)	CHIP	
Q5953	2SB709(R,S)	CHIP	
Q6002	2SD601(R,S)	CHIP	
Q6003	2SB709(R,S)	CHIP	
Q6004	2SB709(R,S)	CHIP	
Q6005	2SC945A(TP)		AKEI
Q6006	DTA143ES		
Q6007	2SC945A(TP)		AKEI
Q6008	VEKS5522	PHOTO SENSOR UNIT	
Q6009	VEKS5522	PHOTO SENSOR UNIT	
		DIODES	
D1001	S1WBA40		⚠
	OR S1WBA60		⚠
	OR S1WBA60B		⚠
D1002	ERA18-04		
D1003	ERA18-04		
D1005	ERA18-04		
D1006	RU2YXLFC1		
D1007	ERA18-04		
D1008	EK13		
D1011	MA4051NH	ZENER 5.1V	
D1012	MA858		
D1013	MA165		
D1015	RD18FB	ZENER 18V	⚠
D1016	MA165		
D1051	MA4100N	ZENER 10V	
D1052	MA165		
D1053	MA165		
D1054	HZ30-3TD	ZENER 30V	
D3301	MA372J	CHIP	AKEI
D3302	MA165		
D4022	MA4056-M	ZENER 5.6V	
	(I)		
D4152	MA4120-M	ZENER 12V	
	(A,D,E,F)		
D4155	MA4056-M	ZENER 5.6V	
	(A,D,E,F)		
D4591	RD9.1EW	ZENER 9.1V	
	(I)		
D5304	MA165		
D5501	MA4062-L	ZENER 6.2V	
D5502	MA165		
D5503	MA165		
D5504	MA165		
D5505	MA165		
D5601	MA165		
D5951	MA165		
D5952	MA4051-M	ZENER 5.1V	
D5953	MA165		
D5954	MA165		

Ref. No.	Part No.	Part Name	Remarks
D5955	MA165		
D6001	VEKS5521	SENSOR LED UNIT	
D6002	MA165		
D6201	MA165		
D6202	MA165		
D6203	MA165		
D6204	MA165		
D6302	LN31GCPHLMU	LED GREEN	
D6303	LN21RCPHLMV	LED RED	
	(A,D,E)		
D6304	LN31GCPHLMU	LED GREEN	
	(A,D,E)		
	LN21RCPHLMV	LED RED	
	(F,I)		
D6305	LN41YCPHLM	LED YELLOW	
	(A,D,E)		
	LN31GCPHLMU	LED GREEN	
	(F,I)		
D6306	LN41YCPHLM	LED YELLOW	
	(F,I)		
		RESISTORS	
R1003	VRESE2TJ334	1/2W 330K	
R1004	ERG2SJ333H	METAL OXIDE 2W 33K	
R1005	ERG1SJ560P	METAL OXIDE 1W 56	
R1006	ERDS2TJ222	2.2K	
R1007	ERDS2TJ101	100	
R1008	ERDS2TJ392	3.9K	
R1010	ERD25FJ100P	10	⚠
	OR ERD25FPJ100P	10	⚠
	OR VRESF4FJ100P	10	⚠
R1011	ERD25FJ4R7P	4.7	⚠
	OR ERD25FPJ4R7P	4.7	⚠
	OR VRESF4FJ4R7P	4.7	⚠
R1014	ERDS2TJ221	220	
R1015	ERDS2TJ221	220	
R1016	ERDS2TJ562	5.6K	
R1017	ERDS2TJ103	10K	
R1018	ERDS2TJ183	18K	
R1019	ERDS2TJ392	3.9K	
R1020	ERDS2TJ682	6.8K	
R1022	ERDS2TJ221	220	
R1051	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R1052	ERDS2TJ153	15K	
R1053	ERDS2TJ153	15K	
R1057	ERDS2TJ182	1.8K	
R3001	ERDS2TJ221	220	
R3002	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3006	ERDS2TJ221	220	
R3007	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(A,F)		
R3009	ERJ6GEYJ181V	MGF CHIP 1/10W 180	
	(A,F)		
R3010	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R3011	ERDS2TJ101	100	
R3012	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3013	ERDS2TJ221	220	
R3016	ERJ6GEYJ121V	MGF CHIP 1/10W 120	
R3017	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
	(A,F)		
R3024	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3025	ERJ6GEYJ125V	MGF CHIP 1/10W 1.2M	
R3026	ERJ6GEYJ474V	MGF CHIP 1/10W 470K	
R3028	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R3029	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R3032	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R3033	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3034	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R3035	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3036	ERJ6GEYG102V	MGF CHIP +-2% 1/10W 1K	
R3037	ERJ6GEYG102V	MGF CHIP +-2% 1/10W 1K	
R3038	ERDS2TJ222	2.2K	
R3042	ERDS2TJ103	10K	
R3043	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
	(A,F)		
R3044	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
	(A,F)		

Ref. No.	Part No.	Part Name	Remarks
R3045	ERDS2TJ182	1.8K	
	(A,F)		
R3046	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
	(A,F)		
R3077	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R3081	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3082	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3083	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R3084	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3085	ERJ6GEYJ181V	MGF CHIP 1/10W 180	
R3091	ERJ6GEYJ750V	MGF CHIP 1/10W 75	
R3301	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3302	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3303	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3304	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3305	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3306	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3307	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R3308	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(I)		
R3309	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(I)		
R3310	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3312	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R3321	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3325	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3326	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3329	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3330	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3331	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R3336	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3338	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
	(A,D,E,F)		
	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
	(I)		
R3341	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3346	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3347	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3352	ERDS2TJ151	150	
R3354	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R3361	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3362	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R3363	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3365	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R3366	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3369	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R3370	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3372	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R3375	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3377	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3378	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3379	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R3380	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3381	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3390	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R4001	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4002	ERJ6GEYJ334V	MGF CHIP 1/10W 330K	
R4003	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R4004	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4005	ERJ6GEYJ225V	MGF CHIP 1/10W 2.2M	
R4006	ERJ6GEYJ681V	MGF CHIP 1/10W 680	
R4007	ERDS2TJ222	2.2K	
R4008	ERJ6GEYG273V	MGF CHIP +-2% 1/10W 27K	
R4009	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4010	ERDS2TJ473	47K	
R4011	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4012	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4013	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R4014	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4015	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R4018	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
	(A,D,E,F)		
	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
	(I)		
R4021	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4024	ERDS2TJ272	2.7K	
	(I)		
R4025	ERDS2TJ272	2.7K	
	(I)		

Ref. No.	Part No.	Part Name	Remarks
R4030	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
	(A,D,E,F)		
R4031	ERDS2TJ561	560	
R4033	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
R4034	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(I)		
R4101	ERJ6GEYG563V	MGF CHIP +-2% 1/10W 56K	
R4102	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R4103	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4151	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
	(A,D,E,F)		
	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(I)		
R4152	ERDS2TJ221	220	
	(A,D,E,F)		
R4153	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
	(A,D,E,F)		
R4155	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(A,D,E,F)		
R4156	ERDS2TJ271	270	
	(A,D,E,F)		
R4157	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
	(A,D,E,F)		
R4158	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
	(A,D,E,F)		
R4159	ERDS2TJ100	10	
	(A,D,E,F)		
R4160	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
	(A,D,E)		
	ERJ6GEYJ121V	MGF CHIP 1/10W 120	
	(F)		
R4163	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
	(A,D,E,F)		
R4167	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(A,D,E,F)		
R4171	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4593	ERDS2TJ681	680	
	(A,D,E,F)		
	ERDS2TJ821	820	
	(I)		
R4594	ERDS2TJ681	680	
R4595	ERDS2TJ681	680	
R4596	ERDS2TJ681	680	
	(A,D,E,F)		
	ERDS2TJ821	820	
	(I)		
R5301	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R5302	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5303	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5304	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R5305	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R5306	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5307	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R5308	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R5309	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R5311	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5312	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5313	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5314	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5315	ERDS2TJ101	100	
R5316	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5317	ERDS2TJ101	100	
R5318	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R5401	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R5402	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R5403	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R5405	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5406	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5501	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R5502	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R5503	ERDS2TJ471	470	
R5504	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5505	ERJ6ENF3241V	MGF CHIP +-1% 1/10W 3.24K	⚠ AKEI
R5508	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R5510	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5511	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R5512	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R5513	ERJ6GEYJ101V	MGF CHIP 1/10W 100	

Ref. No.	Part No.	Part Name	Remarks
R5601	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R5604	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R5610	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R5611	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5612	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5613	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5901	ERQ12AJ270P	FUSE 1/2W 27	⚠
R5902	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R5931	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5932	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5933	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5951	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R5952	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R5953	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R5954	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5955	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R5956	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5957	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6001	ERDS2TJ561	560	
R6002	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6003	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6005	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6006	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R6007	ERJ6GEYJ475V	MGF CHIP 1/10W 4.7M	
R6008	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6009	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6010	ERDS2TJ560	56	
R6011	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6012	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6013	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6014	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6015	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(F,I)		
R6016	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(D,E,F,I)		
R6018	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6020	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6021	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(D,E,I)		
R6022	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6023	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6024	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6026	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6027	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6028	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6029	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6032	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R6033	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
	(I)		
R6035	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R6037	ERDS2TJ102	1K	
R6038	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6041	ERDS2TJ223	22K	
R6042	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6043	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6044	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6046	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6047	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6048	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6049	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6050	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6051	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6052	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(A,F)		
R6053	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(D,E,I)		
R6054	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(A,D,E)		
R6055	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(F,I)		
R6056	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6057	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6061	ERDS2TJ103	10K	
R6066	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(I)		
R6067	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(A,D,E,F)		

Ref. No.	Part No.	Part Name	Remarks
R6068	ERDS2TJ103	10K	
R6069	ERDS2TJ103	10K	
R6070	ERDS2TJ103	10K	
R6074	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
	(A,F)		
R6075	ERDS2TJ224	220K	
	(D,E,I)		
R6076	ERDS2TJ153	15K	
	(D,E,I)		
R6077	ERDS2TJ153	15K	
	(D,E,I)		
R6078	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6079	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6082	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6083	ERDS2TJ681	680	
R6085	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6086	ERDS2TJ332	3.3K	
R6087	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6091	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6094	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6095	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6096	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6097	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6098	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6099	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6100	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6111	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(A)		
R6112	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
	(D,E,F,I)		
R6113	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6116	ERDS2TJ561	560	
R6118	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6120	ERDS2TJ221	220	
R6121	ERDS2TJ221	220	
R6201	EVNCYAA03B15	VARIABLE 100K	
R6202	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6203	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R6204	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6205	ERJ6GEYJ243V	MGF CHIP 1/10W 24K	
R6206	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R6207	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6208	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
R6209	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R6210	ERJ6GEYJ475V	MGF CHIP 1/10W 4.7M	
	(D,E,I)		
R6211	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6212	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R6213	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6214	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R6215	ERJ6GEYJ154V	MGF CHIP 1/10W 150K	
R6216	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6217	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R6218	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R6219	ERJ6GEYJ274V	MGF CHIP 1/10W 270K	
R6220	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6221	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6222	ERJ6GEYJ154V	MGF CHIP 1/10W 150K	
R6223	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R6224	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6228	ERDS2TJ152	1.5K	
R6229	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R6230	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6301	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6302	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R6303	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6304	ERDS2TJ153	15K	
	(D,E,F,I)		
R6305	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6306	ERDS2TJ153	15K	
R6307	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6308	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R6310	ERDS2TJ471	470	
R6311	ERDS2TJ471	470	
R6312	ERDS2TJ471	470	
R6313	ERDS2TJ471	470	

Ref. No.	Part No.	Part Name	Remarks
		CAPACITORS	
C1001	ECKDRS103ZV	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEKD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEMD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEVD103PZ	CERAMIC +80%-20% 125V 0.01	⚠ AKEI
	OR VCKSGKD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSGMD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTKG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTMG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSUKD103MY	CERAMIC +-20% 125V 0.01	⚠
	OR VCKSUMD103MY	CERAMIC +-20% 125V 0.01	⚠
C1002	ECKDRS332MED	CERAMIC +-20% 125V 3300P	⚠
	OR ECKMRS332MEY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSEKD332MY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSEVD332MY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSTKG332MX	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSTMG332MX	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSUKD332MX	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSUMD332MX	CERAMIC +-20% 125V 3300P	⚠
C1003	VCKSFKK102MX	CERAMIC +-20% 125V 1000P	⚠
	OR VCKSFMK102MX	CERAMIC +-20% 125V 1000P	⚠ AKEI
	OR VCKSFVK102MX	CERAMIC +-20% 125V 1000P	⚠ AKEI
C1004	ECEA2DU820YE	ELECTROLYTIC 200V 82	⚠
	OR VCESR2D820XE	ELECTROLYTIC 200V 82	⚠
C1005	ECEA2DG4R7	ELECTROLYTIC 200V 4.7	
C1006	ECKW2H221KB5	CERAMIC 500V 220P	
C1007	VCYSBRC104MX	CERAMIC +-20% 16V 0.1	
C1009	ECQB1H103JF	POLYESTER +-5% 50V 0.01	
C1010	ECQB1H103JF	POLYESTER +-5% 50V 0.01	
C1011	ECEA1HU4R7	ELECTROLYTIC 50V 4.7	
C1012	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1013	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1014	ECEA1HGE470	ELECTROLYTIC 50V 47	
C1016	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1017	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1018	ECQB1H104P9	POLYESTER +100%-0% 50V 0.1	
C1021	ECEA1HKG010	ELECTROLYTIC 50V 1	
C1025	ECKDRS221MB	CERAMIC +-20% 125V 220P	⚠
	OR ECKMRS221MBY	CERAMIC +-20% 125V 220P	⚠
	OR VCKSEJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSELD221KW	CERAMIC 125V 220P	⚠
	OR VCKSHJD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSHLD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSTJG221KW	CERAMIC 125V 220P	⚠
	OR VCKSTLG221KW	CERAMIC 125V 220P	⚠
	OR VCKSUJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSULD221KW	CERAMIC 125V 220P	⚠
C1028	ECKDRS221MB	CERAMIC +-20% 125V 220P	⚠
	OR ECKMRS221MBY	CERAMIC +-20% 125V 220P	⚠
	OR VCKSEJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSELD221KW	CERAMIC 125V 220P	⚠
	OR VCKSHJD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSHLD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSTJG221KW	CERAMIC 125V 220P	⚠
	OR VCKSTLG221KW	CERAMIC 125V 220P	⚠
	OR VCKSUJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSULD221KW	CERAMIC 125V 220P	⚠
C1030	VCYSBRE183KX	CERAMIC 25V 0.018	
C1051	ECEA1HUR47	ELECTROLYTIC 50V 0.47	
C1052	ECEA1CU100	ELECTROLYTIC 16V 10	
C3001	ECUV1H103KBN	C CHIP 50V 0.01	
C3003	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
	(D,E,I)		
C3006	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3007	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C3008	ECUV1H181JCN	C CHIP +-5% 50V 180P	
C3009	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C3010	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
	(A,F)		
C3011	ECUV1H680JCN	C CHIP +-5% 50V 68P	
	(A,F)		
C3012	ECUV1H330JCN	C CHIP +-5% 50V 33P	
	(A,F)		
C3013	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C3015	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C3016	ECEA1CKS100	ELECTROLYTIC 16V 10	
C3019	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3020	ECEA1CKA220	ELECTROLYTIC 16V 22	

Ref. No.	Part No.	Part Name	Remarks
C3021	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3022	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C3023	ECUV1H680JCN	C CHIP +-5% 50V 68P	
C3024	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3025	ECUV1C474ZFN	C CHIP +80%-20% 16V 0.47	
C3026	ECUV1H822KBN	C CHIP 50V 8200P	
C3027	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3030	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3031	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3032	ECUV1C474ZFN	C CHIP +80%-20% 16V 0.47	
C3034	ECUV1H181JCN	C CHIP +-5% 50V 180P	
C3035	ECUV1H270JCN	C CHIP +-5% 50V 27P	
	(A,F)		
	ECUV1H390JCN	C CHIP +-5% 50V 39P	
	(D,E,I)		
C3036	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3038	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3041	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3043	ECUV1H392KBN	C CHIP 50V 3900P	
C3044	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3045	ECEA1HKS3R3	ELECTROLYTIC 50V 3.3	
C3046	ECEA1HKS2R2	ELECTROLYTIC 50V 2.2	
C3047	ECEA0JKS101	ELECTROLYTIC 6.3V 100	
C3050	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C3053	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3054	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
	(D,E,I)		
C3055	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3056	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C3057	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3058	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3060	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3081	ECUV1H102KBN	C CHIP 50V 1000P	
C3082	ECUV1H222KBN	C CHIP 50V 2200P	
C3083	ECUV1H561JCN	C CHIP +-5% 50V 560P	
C3084	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3231	ECEA1HKA010	ELECTROLYTIC 50V 1	
C3232	ECUV1H102KBN	C CHIP 50V 1000P	
C3233	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3234	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C3235	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3236	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3237	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3301	ECUV1H330JCN	C CHIP +-5% 50V 33P	
C3302	ECUV1H330JCN	C CHIP +-5% 50V 33P	
C3303	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3304	ECEA0JKS470	ELECTROLYTIC 6.3V 47	
C3305	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3306	ECUV1H270JCN	C CHIP +-5% 50V 27P	
C3307	ECUV1H100CCN	C CHIP +-0.25P 50V 10P	
C3308	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3309	ECEA1HKS010	ELECTROLYTIC 50V 1	
C3310	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3311	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3312	ECUV1H102KBN	C CHIP 50V 1000P	
C3313	ECEA0JKS101	ELECTROLYTIC 6.3V 100	
C3314	ECEA1HKS2R2	ELECTROLYTIC 50V 2.2	
C3317	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C3326	ECEA1HKS010	ELECTROLYTIC 50V 1	
C3335	ECEA1CKA101	ELECTROLYTIC 16V 100	
C3363	ECUV1H220JCN	C CHIP +-5% 50V 22P	
C4001	ECUV1E104KBN	C CHIP 25V 0.1	
C4002	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4003	ECUV1H272KBN	C CHIP 50V 2700P	
C4004	ECUV1H103KBN	C CHIP 50V 0.01	
C4005	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C4006	ECUV1H102KBN	C CHIP 50V 1000P	
C4007	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C4008	ECEA0JKS470	ELECTROLYTIC 6.3V 47	
C4009	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4010	ECUV1E333KBN	C CHIP 25V 0.033	
C4012	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4013	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C4014	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4015	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C4018	ECUV1H103KBN	C CHIP 50V 0.01	
	(A,D,E,F)		
C4022	ECEA1CKA101	ELECTROLYTIC 16V 100	
	(I)		

Ref. No.	Part No.	Part Name	Remarks
C4030	ECUV1E333KBN	C CHIP 25V 0.033	
C4032	ECUV1H103KBN	C CHIP 50V 0.01	
C4033	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4099	ECEA0JKA221	ELECTROLYTIC 6.3V 220	
	(I)		
C4102	ECHS1562JZ3	POLYESTER +-5% 100V 5600P	
C4103	ECUV1H103KBN	C CHIP 50V 0.01	
C4104	ECUV1H103KBN	C CHIP 50V 0.01	
C4105	ECEA1CKA220	ELECTROLYTIC 16V 22	
C4151	ECEA1CKA100	ELECTROLYTIC 16V 10	
	(A,D,E,F)		
C4152	ECEA1CKA470	ELECTROLYTIC 16V 47	
	(A,D,E,F)		
C4153	ECUV1H222KBN	C CHIP 50V 2200P	
	(A,D,E,F)		
C4154	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
	(A,D,E,F)		
C4155	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
	(A,D,E,F)		
C4156	ECA1EM471B	ELECTROLYTIC 25V 470	
	(A,D,E,F)		
C4157	ECUV1E273KBN	C CHIP 25V 0.027	
	(A,D,E,F)		
C4158	ECUV1E473ZFN	C CHIP +80%-20% 25V 0.047	
	(A,D,E,F)		
C4159	ECEA1CKA100	ELECTROLYTIC 16V 10	
	(A,D,E,F)		
C4160	ECA1CM471B	ELECTROLITIC 16V 470	
	(A,D,E)		
	ECA1CM101B	ELECTROLITIC 16V 100	
	(F)		
C4161	ECUV1E473KBN	C CHIP 25V 0.047	
	(A,D,E,F)		
C4163	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
	(A,D,E,F)		
C4164	ECUV1H103KBN	C CHIP 50V 0.01	
	(A,D,E,F)		
C4166	ECA1EM221B	ELECTROLYTIC 25V 220	
	(A,D,E,F)		
C4171	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5301	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5302	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C5303	ECEA1HKAR33	ELECTROLYTIC 50V 0.33	
C5305	ECEA1HKAR47	ELECTROLYTIC 50V 0.47	
C5306	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5307	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5308	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5401	ECEA1HKNR22	ELECTROLYTIC 50V 0.22	
C5402	ECUV1H222KBN	C CHIP 50V 2200P	
C5403	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C5501	ECUV1E183KBN	C CHIP 25V 0.018	
C5502	ECUV1H471KBN	C CHIP 50V 470P	
C5505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5506	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5507	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5508	ECUV1H221JSN	C CHIP +-5% 50V 220P	
C5510	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5511	ECUV1E333KBN	C CHIP 25V 0.033	
C5516	ECUV1E333KBN	C CHIP 25V 0.033	
C5601	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5602	ECUV1E104KBN	C CHIP 25V 0.1	
C5603	ECUV1H150JCN	C CHIP +-5% 50V 15P	
C5604	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5605	ECUV1H153KBN	C CHIP 50V 0.015	
C5606	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5607	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5901	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5902	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5903	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5904	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5905	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C5906	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5931	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5932	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5951	ECA1CM221	ELECTROLYTIC 16V 220	
C6001	ECEA0JU471	ELECTROLYTIC 6.3V 470	
C6005	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C6006	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6007	ECUV1H101JCN	C CHIP +-5% 50V 100P	

(E2)

Ref. No.	Part No.	Part Name	Remarks
C6008	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6009	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6011	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6012	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6013	ECUV1E104KBN	C CHIP 25V 0.1	
C6014	ECUV1H150GCN	C CHIP +-2% 50V 15P	
C6015	ECUV1H120JCN	C CHIP +-5% 50V 12P	
C6016	ECUV1H010CCN	C CHIP +-0.25P 50V 1	
C6017	ECEA0JKS470	ELECTROLYTIC 6.3V 47	
C6018	ECUV1H102KBN	C CHIP 50V 1000P	
C6020	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6021	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6023	ECUV1H102KBN	C CHIP 50V 1000P	
C6024	ECUV1H102KBN	C CHIP 50V 1000P	
C6036	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6201	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C6202	ECEA0JKA330	ELECTROLYTIC 6.3V 33	
C6203	ECUV1H103KBN	C CHIP 50V 0.01	
C6204	ECUV1H103KBN	C CHIP 50V 0.01	
C6205	ECUV1H102KBN	C CHIP 50V 1000P	
C6206	ECUV1H103KBN	C CHIP 50V 0.01	
C6207	ECQB1H393KF	POLYESTER 50V 0.039	
C6208	ECEA1HKA010	ELECTROLYTIC 50V 1	
C6209	ECEA1CKS100	ELECTROLYTIC 16V 10	
C6211	ECUV1H272KBN	C CHIP 50V 2700P	
C6212	ECUV1E104KBN	C CHIP 25V 0.1	
C6213	ECUV1H151KN	C CHIP 50V 150P	
C6214	ECUV1H102KBN	C CHIP 50V 1000P	
C6217	ECUV1E104KBN	C CHIP 25V 0.1	
C6218	ECEA1CKA100	ELECTROLYTIC 16V 10	
C6221	ECEA0JKA220	ELECTROLYTIC 6.3V 22	
C6222	ECUV1H272KBN	C CHIP 50V 2700P	
C6223	ECUV1H103KBN	C CHIP 50V 0.01	
C6224	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C6225	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
C6228	VCYSBRC104MX	CERAMIC +-20% 16V 0.1	
C6231	ECEA1CKA100	ELECTROLYTIC 16V 10	
		FILTERS	
FL4001	VLFS0014		
		COILS	
L1001	ELF15N005A	HIGH PASS FILTER 0.5A 18M	⚠
	OR ELF18D290A	HIGH PASS FILTER 0.5A 18M	⚠
	OR LLN23012A	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0157	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0166	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0167	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0168	HIGH PASS FILTER 0.5A 18M	⚠
L1002	VLQSW07D220M	+-20% 22	
L1003	VLQSW07D9R0M	+-20% 9	
L1006	VLPS0005A	22	
L3001	VLQSH02R680K	68	
	(A,F)		
L3002	ELESN101KA	100	
L3004	VLQSH02R220K	22	
	(A,F)		
L3005	VLQSH02R390K	39	
L3010	ELESN470KA	47	
L3231	ELESN221KA	220	
L3301	VLQSH02R5R6J	+-5% 5.6	AKEI
L3302	ELESN101KA	100	
L4002	VLQSH02R101K	100	
L4004	VLQSH02R220K	22	
	(A,D,E)		
	VLQSH02R100K	10	
	(F,I)		
L4005	VLQSU06R153K	15M	
L4101	ELESN471KA	470	
L5901	ELESN101KA	100	
		CRYSTAL OSCILLATOR	
X3301	VSXS0207		AKEI
X5501	CSB503F38		
X5601	VSXS0208-B		
X6001	VSXS0784		

Ref. No.	Part No.	Part Name	Remarks
		PIN HEADERS	
P1002	VJPS0303	CONNECTOR 3P	
P1201	VJPS0765	CONNECTOR PLUG 7P	AKEI
P1202	VJPS0768	CONNECTOR PLUG 19P	AKEI
P1203	VJPS0767	CONNECTOR PLUG 13P	AKEI
P3003	VJPS0882	CONNECTOR 12P	
	(A,F)		
	VJPS0884	CONNECTOR 15P	
	(D,E,I)		
P4001	VJSS0888	FE CONNECTOR 2P	
P4591	VJPS0268	CONNECTOR 2P	
	(A,D,E,F)		
P4592	VJPS0275	CONNECTOR 5P	
	(I)		
P6002	VJPS0881	CONNECTOR 8P	
P6201	VJPS0883	CONNECTOR 14P	
		SWITCHES	
SW6001	VSHS0058	LEAF SWITCH-SAFETY TAB	
SW6002	VSSS0159	MODE SELECT SWITCH	
SW6301	EVQ21405R	PUSH SWITCH	
SW6302	EVQ21405R	PUSH SWITCH	
SW6303	EVQPAD09K	CASSETTE DOWN SWITCH	
	(A,D,E)		
SW6304	EVQ21405R	PUSH SWITCH	
SW6305	EVQ21405R	PUSH SWITCH	
SW6306	EVQ21405R	PUSH SWITCH	
	(D,E,F,I)		
SW6307	EVQPB005K	PUSH SWITCH	
SW6308	EVQPB005K	PUSH SWITCH	
	(A,D,E)		
SW6309	EVQ21405R	PUSH SWITCH	
SW6310	EVQPB005K	PUSH SWITCH	
SW6311	EVQ21405R	PUSH SWITCH	
	(A,D,E)		
SW6312	EVQPB005K	PUSH SWITCH	
SW6313	EVQPB005K	PUSH SWITCH	
	(F,I)		
SW6314	EVQ21405R	PUSH SWITCH	
	(F,I)		
SW6315	EVQPB005K	PUSH SWITCH	
	(F,I)		
		FUSE & PROTECTOR	
F1001	VSFS0003A16	FUSE 125V 1.6A	⚠
	OR VSFS0012A16	FUSE 125V 1.6A	⚠
	OR VSFS0028A16	FUSE 125V 1.6A	⚠
	OR XBA1C16NU100	FUSE 125V 1.6A	⚠
PR1001	ICP-F38-1	IC PROTECTOR 1.5A	⚠
	OR UN10015	IC PROTECTOR 1.5A	⚠
	OR VSFS0029D25	IC PROTECTOR 1.5A	⚠
PR1050	ICP-F38-1	IC PROTECTOR 1.5A	⚠
	OR UN10015	IC PROTECTOR 1.5A	⚠
	OR VSFS0029D25	IC PROTECTOR 1.5A	⚠
PR1054	ICP-F25-1	IC PROTECTOR 1A	⚠
	OR UN11010	IC PROTECTOR 1A	⚠
		TRANSFORMER	
T1001	ETS28AD1F5AC		⚠
	OR VTPS0034		⚠
	OR VTPS0038		⚠
	OR VTPS0040		⚠
T4101	VLTS0304		
		PRINTED CIRCUIT BOARD ASSEMBLY	
E2	VEPS4016A1	TV STEREO C.B.A.	▲ E.S.D. AKEI
	(I)		

(E23, E24, E27, E30, E32)

Ref. No.	Part No.	Part Name	Remarks
		MISCELLANEOUS	
JK4551	LJP28009A	FRONT A/V JACK SOCKET	AKEI
JK4591	LJP68001A	EARPHONE JACK SOCKET	AKEI
E23	VJSS3325	FUSE HOLDER	AKEI
E24	LMH69003A	LED HOLDER	AKEI
	(A,D,E)		
E24	LMH69002A	LED HOLDER	AKEI
	(F,I)		
E27	GP1U292Q	INFRARED RECEIVER UNIT	
E30	VMTS0035	CUSHION	
E32	VMDS0038	LED SPACER	
	(A,D,E)		
		MAIN C.B.A.	■
		(B,C,G,H)	
		INTEGRATED CIRCUITS	
IC1001	0N3131-R.KT	IC, LINEAR ERROR V. DET	⚠
IC3001	AN3475FBP	IC, LINEAR VIDEO/AUDIO PROCESS	
IC3201	MN3885S	IC, CCD 1H DELAY	E.S.D.
IC3301	LC8643125957	IC, 8BIT MICROPROCESSOR	E.S.D. AKEI
		OSD/CCV	
IC4151	AN5265	IC, LINEAR AUDIO AMP	
IC5301	AN5367FB	IC, LINEAR Y/C SIGNAL PROCESS	
IC6001	MN675058A5P2	IC, 8BIT MICROPROCESSOR	E.S.D.
IC6002	CNA1801N	REEL SENSOR UNIT	
IC6003	CNA1801N	REEL SENSOR UNIT	
IC6004	24LC01B/PS1	IC, 1K EEP ROM MEMORY	E.S.D.
		TRANSISTORS	
Q1001	2SC4533LP.KT		⚠
	OR 2SC5130LF608		⚠
Q1002	2SD1458		
Q1003	2SD636(Q,R,S)		
Q1004	2SB641(Q,R,S)		
Q1005	2SB641(R,S)		
Q1051	2SC3852		
Q1052	2SC945A(TP)		AKEI
Q3001	2SB709(R,S)	CHIP	
Q3002	2SD601(R,S)	CHIP	
Q3310	2SD601(R,S)	CHIP	
Q3311	2SB709(R,S)	CHIP	
Q3314	IMX1	COMPLX CMP SI NPN CHIP	
Q3315	UN2112	CHIP	
Q4001	2SB709(R,S)	CHIP	
Q4002	2SD601A(R,S)	CHIP	
Q4003	2SD601A(R,S)	CHIP	
Q4005	UN2215	CHIP	
Q4006	UN2115	CHIP	
Q4101	2SC945A(TP)		AKEI
Q4153	2SD2259		
Q4154	UN2212	CHIP	
Q5301	2SD601(R,S)	CHIP	
Q5302	2SD601(R,S)	CHIP	
Q5601	2SD601(R,S)	CHIP	
Q5901	2SD2259		
Q5931	2SD601(R,S)	CHIP	
Q5951	2SB709(R,S)	CHIP	
Q5952	2SD601(R,S)	CHIP	
Q5953	2SB709(R,S)	CHIP	
Q6002	2SD601(R,S)	CHIP	
Q6003	2SB709(R,S)	CHIP	
Q6004	2SB709(R,S)	CHIP	
Q6005	2SC945A(TP)		AKEI
Q6006	DTA143ES		
Q6007	2SC945A(TP)		AKEI
Q6008	VEKS5522	PHOTO SENSOR UNIT	
Q6009	VEKS5522	PHOTO SENSOR UNIT	

Ref. No.	Part No.	Part Name	Remarks
		DIODES	
D1001	S1WBA40		⚠
	OR S1WBA60		⚠
	OR S1WBA60B		⚠
D1002	ERA18-04		
D1003	ERA18-04		
D1005	ERA18-04		
D1006	RU2YXLFC1		
D1007	ERA18-04		
D1008	EK13		
D1011	MA4051NH	ZENER 5.1V	
D1012	MA858		
D1013	MA165		
D1015	RD18FB	ZENER 18V	⚠
D1016	MA165		
D1051	MA4100N	ZENER 10V	
D1052	MA165		
D1053	MA165		
D1054	HZ30-3TD	ZENER 30V	
D3301	MA372J	CHIP	AKEI
D3302	MA165		
D4152	MA4120-M	ZENER 12V	
D4155	MA4056-M	ZENER 5.6V	
D5304	MA165		
D5501	MA4062-L	ZENER 6.2V	
D5502	MA165		
D5503	MA165		
D5504	MA165		
D5505	MA165		
D5601	MA165		
D5951	MA165		
D5952	MA4051-M	ZENER 5.1V	
D5953	MA165		
D5954	MA165		
D5955	MA165		
D6001	VEKS5521	SENSOR LED UNIT	
D6002	MA165		
D6201	MA165		
D6202	MA165		
D6203	MA165		
D6204	MA165		
D6302	LN31GCPHLMU	LED GREEN	
D6303	LN21RCPHLMV	LED RED	
	(B,C)		
D6304	LN31GCPHLMU	LED GREEN	
	(B,C)		
	LN21RCPHLMV	LED RED	
	(G,H)		
D6305	LN41YCPHLM	LED YELLOW	
	(B,C)		
	LN31GCPHLMU	LED GREEN	
	(G,H)		
D6306	LN41YCPHLM	LED YELLOW	
	(G,H)		
		RESISTORS	
R1003	VRESE2TJ334	1/2W 330K	
R1004	ERG2SJ333H	METAL OXIDE 2W 33K	
R1005	ERG1SJ560P	METAL OXIDE 1W 56	
R1006	ERDS2TJ222	2.2K	
R1007	ERDS2TJ101	100	
R1008	ERDS2TJ392	3.9K	
R1010	ERD25FJ100P	10	⚠
	OR ERD25FPJ100P	10	⚠
	OR VRESF4FJ100P	10	⚠
R1011	ERD25FJ4R7P	4.7	⚠
	OR ERD25FPJ4R7P	4.7	⚠
	OR VRESF4FJ4R7P	4.7	⚠
R1014	ERDS2TJ221	220	
R1015	ERDS2TJ221	220	
R1016	ERDS2TJ562	5.6K	
R1017	ERDS2TJ103	10K	
R1018	ERDS2TJ183	18K	
R1019	ERDS2TJ392	3.9K	
R1020	ERDS2TJ682	6.8K	
R1022	ERDS2TJ221	220	

Ref. No.	Part No.	Part Name	Remarks
R1051	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R1052	ERDS2TJ153	15K	
R1053	ERDS2TJ153	15K	
R1057	ERDS2TJ182	1.8K	
R3001	ERDS2TJ221	220	
R3002	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3006	ERDS2TJ221	220	
R3007	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R3009	ERJ6GEYJ181V	MGF CHIP 1/10W 180	
R3010	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R3011	ERDS2TJ101	100	
R3012	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3013	ERDS2TJ221	220	
R3016	ERJ6GEYJ121V	MGF CHIP 1/10W 120	
R3017	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3024	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3025	ERJ6GEYJ125V	MGF CHIP 1/10W 1.2M	
R3026	ERJ6GEYJ474V	MGF CHIP 1/10W 470K	
R3028	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R3029	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R3032	ERJ6GEYJ122V	MGF CHIP 1/10W 1.2K	
R3033	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3034	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R3035	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3036	ERJ6GEYG102V	MGF CHIP +-2% 1/10W 1K	
R3037	ERJ6GEYG102V	MGF CHIP +-2% 1/10W 1K	
R3038	ERDS2TJ222	2.2K	
R3042	ERDS2TJ103	10K	
R3043	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3044	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3045	ERDS2TJ182	1.8K	
R3046	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3077	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R3081	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3082	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3083	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R3084	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3085	ERJ6GEYJ181V	MGF CHIP 1/10W 180	
R3091	ERJ6GEYJ750V	MGF CHIP 1/10W 75	
R3301	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3302	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3303	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3304	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3305	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3306	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3307	ERJ6GEYJ471V	MGF CHIP 1/10W 470	
R3310	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3312	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R3321	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3325	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3326	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3329	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3330	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3331	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R3336	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3338	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R3341	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3346	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3347	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R3352	ERDS2TJ151	150	
R3354	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R3361	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3362	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R3363	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R3365	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R3366	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3369	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R3370	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R3372	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R3375	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R3377	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3378	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R3379	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R3380	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R3381	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R3390	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R4001	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4002	ERJ6GEYJ334V	MGF CHIP 1/10W 330K	

Ref. No.	Part No.	Part Name	Remarks
R4003	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R4004	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R4005	ERJ6GEYJ225V	MGF CHIP 1/10W 2.2M	
R4006	ERJ6GEYJ681V	MGF CHIP 1/10W 680	
R4007	ERDS2TJ222	2.2K	
R4008	ERJ6GEYG273V	MGF CHIP +-2% 1/10W 27K	
R4009	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4010	ERDS2TJ473	47K	
R4011	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4012	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4013	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R4014	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R4015	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R4018	ERJ6GEYJ682V	MGF CHIP 1/10W 6.8K	
R4021	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R4030	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R4031	ERDS2TJ561	560	
R4033	ERJ6GEYJ821V	MGF CHIP 1/10W 820	
R4101	ERJ6GEYG563V	MGF CHIP +-2% 1/10W 56K	
R4102	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R4103	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4151	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R4152	ERDS2TJ221	220	
R4153	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
R4155	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4156	ERDS2TJ271	270	
R4157	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R4158	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R4159	ERDS2TJ100	10	
R4160	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
	(B,C)		
	ERJ6GEYJ121V	MGF CHIP 1/10W 120	
	(G,H)		
R4163	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R4167	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4171	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R4593	ERDS2TJ681	680	
R4594	ERDS2TJ681	680	
R4595	ERDS2TJ681	680	
R4596	ERDS2TJ681	680	
R5301	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R5302	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5303	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5304	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R5305	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R5306	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5307	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R5308	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R5309	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R5311	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5312	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5313	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
R5314	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5315	ERDS2TJ101	100	
R5316	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5317	ERDS2TJ101	100	
R5318	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R5401	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R5402	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R5403	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R5405	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5406	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5501	ERJ6GEYJ271V	MGF CHIP 1/10W 270	
R5502	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R5503	ERDS2TJ471	470	
R5504	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5505	ERJ6ENF3241V	MGF CHIP +-1% 1/10W 3.24K	⚠ AKEI
R5508	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R5510	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5511	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R5512	ERJ6GEYJ151V	MGF CHIP 1/10W 150	
R5513	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5601	ERJ6GEYJ562V	MGF CHIP 1/10W 5.6K	
R5604	ERJ6GEYJ152V	MGF CHIP 1/10W 1.5K	
R5610	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R5611	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5612	ERJ6GEYJ822V	MGF CHIP 1/10W 8.2K	
R5613	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	

Ref. No.	Part No.	Part Name	Remarks
R5901	ERQ12AJ270P	FUSE 1/2W 27	⚠
R5902	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R5931	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5932	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5933	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R5951	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R5952	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R5953	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R5954	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R5955	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R5956	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R5957	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6001	ERDS2TJ561	560	
R6002	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6003	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6005	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6006	ERJ6GEYJ391V	MGF CHIP 1/10W 390	
R6007	ERJ6GEYJ475V	MGF CHIP 1/10W 4.7M	
R6008	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R6009	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6010	ERDS2TJ560	56	
R6011	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6012	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6013	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6014	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6018	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6020	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6022	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6023	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6024	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6026	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6027	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6028	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6029	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6032	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R6035	ERJ6GEYJ272V	MGF CHIP 1/10W 2.7K	
R6037	ERDS2TJ102	1K	
R6038	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6041	ERDS2TJ223	22K	
R6042	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6043	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R6044	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6046	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6047	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6048	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6049	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6050	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6051	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6052	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6054	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6056	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6057	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6061	ERDS2TJ103	10K	
R6067	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6068	ERDS2TJ103	10K	
R6069	ERDS2TJ103	10K	
R6070	ERDS2TJ103	10K	
R6074	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6078	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6079	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6082	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6083	ERDS2TJ681	680	
R6085	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6086	ERDS2TJ332	3.3K	
R6087	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6091	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6094	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6095	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6096	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6097	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6098	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6099	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6100	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6111	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R6113	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6116	ERDS2TJ561	560	
R6118	ERJ6GEYJ563V	MGF CHIP 1/10W 56K	
R6120	ERDS2TJ221	220	

Ref. No.	Part No.	Part Name	Remarks
R6121	ERDS2TJ221	220	
R6201	EVNCYAA03B15	VARIABLE 100K	
R6202	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R6203	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R6204	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6205	ERJ6GEYJ243V	MGF CHIP 1/10W 24K	
R6206	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R6207	ERJ6GEYJ223V	MGF CHIP 1/10W 22K	
R6208	ERJ6GEYJ823V	MGF CHIP 1/10W 82K	
R6209	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R6211	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6212	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R6213	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R6214	ERJ6GEYJ394V	MGF CHIP 1/10W 390K	
R6215	ERJ6GEYJ154V	MGF CHIP 1/10W 150K	
R6216	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6217	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R6218	ERJ6GEYJ184V	MGF CHIP 1/10W 180K	
R6219	ERJ6GEYJ274V	MGF CHIP 1/10W 270K	
R6220	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R6221	ERJ6GEYJ221V	MGF CHIP 1/10W 220	
R6222	ERJ6GEYJ154V	MGF CHIP 1/10W 150K	
R6223	ERJ6GEYJ392V	MGF CHIP 1/10W 3.9K	
R6224	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6228	ERDS2TJ152	1.5K	
R6229	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R6230	ERJ6GEYJ222V	MGF CHIP 1/10W 2.2K	
R6301	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6302	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R6303	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6305	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6306	ERDS2TJ153	15K	
R6307	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R6308	ERJ6GEYJ153V	MGF CHIP 1/10W 15K	
R6310	ERDS2TJ471	470	
R6311	ERDS2TJ471	470	
R6312	ERDS2TJ471	470	
R6313	ERDS2TJ471	470	
		CAPACITORS	
C1001	ECKDRS103ZV	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEKD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEMD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEVD103PZ	CERAMIC +80%-20% 125V 0.01	⚠ AKEI
	OR VCKSGKD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSGMD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTKG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTMG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSUKD103MY	CERAMIC +-20% 125V 0.01	⚠
	OR VCKSUMD103MY	CERAMIC +-20% 125V 0.01	⚠
C1002	ECKDRS332MED	CERAMIC +-20% 125V 3300P	⚠
	OR ECKMRS332MEY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSEKD332MY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSEVD332MY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSTKG332MX	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSTMG332MX	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSUKD332MX	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSUMD332MX	CERAMIC +-20% 125V 3300P	⚠
C1003	VCKSFKK102MX	CERAMIC +-20% 125V 1000P	⚠
	OR VCKSFMK102MX	CERAMIC +-20% 125V 1000P	⚠ AKEI
	OR VCKSFVK102MX	CERAMIC +-20% 125V 1000P	⚠ AKEI
C1004	ECEA2DU820YE	ELECTROLYTIC 200V 82	⚠
	OR VCESR2D820XE	ELECTROLYTIC 200V 82	⚠
C1005	ECEA2DG4R7	ELECTROLYTIC 200V 4.7	
C1006	ECKW2H221KB5	CERAMIC 500V 220P	
C1007	VCYSBRC104MX	CERAMIC +-20% 16V 0.1	
C1009	ECQB1H103JF	POLYESTER +-5% 50V 0.01	
C1010	ECQB1H103JF	POLYESTER +-5% 50V 0.01	
C1011	ECEA1HU4R7	ELECTROLYTIC 50V 4.7	
C1012	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1013	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1014	ECEA1HGE470	ELECTROLYTIC 50V 47	
C1016	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1017	ECEA1PEE331	ELECTROLYTIC 18V 330	
C1018	ECQB1H104P9	POLYESTER +100%-0% 50V 0.1	
C1021	ECEA1HKG010	ELECTROLYTIC 50V 1	

Ref. No.	Part No.	Part Name	Remarks
C1025	ECKDRS221MB	CERAMIC +-20% 125V 220P	⚠
	OR ECKMRS221MBY	CERAMIC +-20% 125V 220P	⚠
	OR VCKSEJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSELD221KW	CERAMIC 125V 220P	⚠
	OR VCKSHJD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSHLD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSTJG221KW	CERAMIC 125V 220P	⚠
	OR VCKSTLG221KW	CERAMIC 125V 220P	⚠
	OR VCKSUJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSULD221KW	CERAMIC 125V 220P	⚠
C1028	ECKDRS221MB	CERAMIC +-20% 125V 220P	⚠
	OR ECKMRS221MBY	CERAMIC +-20% 125V 220P	⚠
	OR VCKSEJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSELD221KW	CERAMIC 125V 220P	⚠
	OR VCKSHJD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSHLD221MW	CERAMIC +-20% 125V 220P	⚠
	OR VCKSTJG221KW	CERAMIC 125V 220P	⚠
	OR VCKSTLG221KW	CERAMIC 125V 220P	⚠
	OR VCKSUJD221KW	CERAMIC 125V 220P	⚠
	OR VCKSULD221KW	CERAMIC 125V 220P	⚠
C1030	VCYSBRE183KX	CERAMIC 25V 0.018	
C1051	ECEA1HUR47	ELECTROLYTIC 50V 0.47	
C1052	ECEA1CU100	ELECTROLYTIC 16V 10	
C3001	ECUV1H103KBN	C CHIP 50V 0.01	
C3006	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3007	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C3008	ECUV1H181JCN	C CHIP +-5% 50V 180P	
C3009	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C3010	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3011	ECUV1H680JCN	C CHIP +-5% 50V 68P	
C3012	ECUV1H330JCN	C CHIP +-5% 50V 33P	
C3013	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C3015	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C3016	ECEA1CKS100	ELECTROLYTIC 16V 10	
C3019	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3020	ECEA1CKA220	ELECTROLYTIC 16V 22	
C3021	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C3022	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C3023	ECUV1H680JCN	C CHIP +-5% 50V 68P	
C3024	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3025	ECUV1C474ZFN	C CHIP +80%-20% 16V 0.47	
C3026	ECUV1H822KBN	C CHIP 50V 8200P	
C3027	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3030	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3031	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3032	ECUV1C474ZFN	C CHIP +80%-20% 16V 0.47	
C3034	ECUV1H181JCN	C CHIP +-5% 50V 180P	
C3035	ECUV1H270JCN	C CHIP +-5% 50V 27P	
C3036	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3038	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3041	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3043	ECUV1H392KBN	C CHIP 50V 3900P	
C3044	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3045	ECEA1HKS3R3	ELECTROLYTIC 50V 3.3	
C3046	ECEA1HKS2R2	ELECTROLYTIC 50V 2.2	
C3047	ECEA0JKS101	ELECTROLYTIC 6.3V 100	
C3050	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C3053	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3055	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3056	ECUV1C224ZFN	C CHIP +80%-20% 16V 0.22	
C3057	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3058	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3060	ECEA1CKA100	ELECTROLYTIC 16V 10	
C3081	ECUV1H102KBN	C CHIP 50V 1000P	
C3082	ECUV1H222KBN	C CHIP 50V 2200P	
C3083	ECUV1H561JCN	C CHIP +-5% 50V 560P	
C3084	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3231	ECEA1HKA010	ELECTROLYTIC 50V 1	
C3232	ECUV1H102KBN	C CHIP 50V 1000P	
C3233	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3234	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C3235	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3236	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3237	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3301	ECUV1H330JCN	C CHIP +-5% 50V 33P	
C3302	ECUV1H330JCN	C CHIP +-5% 50V 33P	
C3303	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3304	ECEA0JKS470	ELECTROLYTIC 6.3V 47	

Ref. No.	Part No.	Part Name	Remarks
C3305	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3306	ECUV1H270JCN	C CHIP +-5% 50V 27P	
C3307	ECUV1H100CCN	C CHIP +-0.25P 50V 10P	
C3308	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3309	ECEA1HKS010	ELECTROLYTIC 50V 1	
C3310	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3311	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3312	ECUV1H102KBN	C CHIP 50V 1000P	
C3313	ECEA0JKS101	ELECTROLYTIC 6.3V 100	
C3314	ECEA1HKS2R2	ELECTROLYTIC 50V 2.2	
C3317	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C3326	ECEA1HKS010	ELECTROLYTIC 50V 1	
C3335	ECEA1CKA101	ELECTROLYTIC 16V 100	
C3363	ECUV1H220JCN	C CHIP +-5% 50V 22P	
C4001	ECUV1E104KBN	C CHIP 25V 0.1	
C4002	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4003	ECUV1H272KBN	C CHIP 50V 2700P	
C4004	ECUV1H103KBN	C CHIP 50V 0.01	
C4005	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C4006	ECUV1H102KBN	C CHIP 50V 1000P	
C4007	ECEA0JKS220	ELECTROLYTIC 6.3V 22	
C4008	ECEA0JKS470	ELECTROLYTIC 6.3V 47	
C4009	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4010	ECUV1E333KBN	C CHIP 25V 0.033	
C4012	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4013	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C4014	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4015	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C4018	ECUV1H103KBN	C CHIP 50V 0.01	
C4030	ECUV1E333KBN	C CHIP 25V 0.033	
C4032	ECUV1H103KBN	C CHIP 50V 0.01	
C4033	ECEA1HKS010	ELECTROLYTIC 50V 1	
C4102	ECHS156ZJZ3	POLYESTER +-5% 100V 5600P	
C4103	ECUV1H103KBN	C CHIP 50V 0.01	
C4104	ECUV1H103KBN	C CHIP 50V 0.01	
C4105	ECEA1CKA220	ELECTROLYTIC 16V 22	
C4151	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4152	ECEA1CKA470	ELECTROLYTIC 16V 47	
C4153	ECUV1H222KBN	C CHIP 50V 2200P	
C4154	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C4155	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C4156	ECA1EM471B	ELECTROLYTIC 25V 470	
C4157	ECUV1E273KBN	C CHIP 25V 0.027	
C4158	ECUV1E473ZFN	C CHIP +80%-20% 25V 0.047	
C4159	ECEA1CKA100	ELECTROLYTIC 16V 10	
C4160	ECA1CM471B	ELECTROLYTIC 16V 470	
	(B,C)		
	ECA1CM101B	ELECTROLYTIC 16V 100	
	(G,H)		
C4161	ECUV1E473KBN	C CHIP 25V 0.047	
C4163	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C4164	ECUV1H103KBN	C CHIP 50V 0.01	
C4166	ECA1EM221B	ELECTROLYTIC 25V 220	
C4171	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5301	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5302	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C5303	ECEA1HKAR33	ELECTROLYTIC 50V 0.33	
C5305	ECEA1HKAR47	ELECTROLYTIC 50V 0.47	
C5306	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5307	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5308	ECEA1CKN100	ELECTROLYTIC 16V 10	
C5401	ECEA1HKNR22	ELECTROLYTIC 50V 0.22	
C5402	ECUV1H222KBN	C CHIP 50V 2200P	
C5403	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C5501	ECUV1E183KBN	C CHIP 25V 0.018	
C5502	ECUV1H471KBN	C CHIP 50V 470P	
C5505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5506	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5507	ECEA1CKA100	ELECTROLYTIC 16V 10	
C5508	ECUV1H221JSN	C CHIP +-5% 50V 220P	
C5510	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5511	ECUV1E333KBN	C CHIP 25V 0.033	
C5516	ECUV1E333KBN	C CHIP 25V 0.033	
C5601	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5602	ECUV1E104KBN	C CHIP 25V 0.1	
C5603	ECUV1H150JCN	C CHIP +-5% 50V 15P	
C5604	ECEA1HKA010	ELECTROLYTIC 50V 1	
C5605	ECUV1H153KBN	C CHIP 50V 0.015	

Ref. No.	Part No.	Part Name	Remarks
C5606	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5607	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5901	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5902	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5903	ECEA1CKA470	ELECTROLYTIC 16V 47	
C5904	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5905	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C5906	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5931	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5932	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C5951	ECA1CM221	ELECTROLYTIC 16V 220	
C6001	ECEA0JU471	ELECTROLYTIC 6.3V 470	
C6005	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C6006	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6007	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6008	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6009	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6011	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6012	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6013	ECUV1E104KBN	C CHIP 25V 0.1	
C6014	ECUV1H150GCN	C CHIP +-2% 50V 15P	
C6015	ECUV1H120JCN	C CHIP +-5% 50V 12P	
C6016	ECUV1H010CCN	C CHIP +-0.25P 50V 1	
C6017	ECEA0JKS470	ELECTROLYTIC 6.3V 47	
C6018	ECUV1H102KBN	C CHIP 50V 1000P	
C6020	ECUV1H101JCN	C CHIP +-5% 50V 100P	
C6021	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6023	ECUV1H102KBN	C CHIP 50V 1000P	
C6024	ECUV1H102KBN	C CHIP 50V 1000P	
C6036	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C6201	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C6202	ECEA0JKA330	ELECTROLYTIC 6.3V 33	
C6203	ECUV1H103KBN	C CHIP 50V 0.01	
C6204	ECUV1H103KBN	C CHIP 50V 0.01	
C6205	ECUV1H102KBN	C CHIP 50V 1000P	
C6206	ECUV1H103KBN	C CHIP 50V 0.01	
C6207	ECQB1H393KF	POLYESTER 50V 0.039	
C6208	ECEA1HKA010	ELECTROLYTIC 50V 1	
C6209	ECEA1CKS100	ELECTROLYTIC 16V 10	
C6211	ECUV1H272KBN	C CHIP 50V 2700P	
C6212	ECUV1E104KBN	C CHIP 25V 0.1	
C6213	ECUV1H151KN	C CHIP 50V 150P	
C6214	ECUV1H102KBN	C CHIP 50V 1000P	
C6217	ECUV1E104KBN	C CHIP 25V 0.1	
C6218	ECEA1CKA100	ELECTROLYTIC 16V 10	
C6221	ECEA0JKA220	ELECTROLYTIC 6.3V 22	
C6222	ECUV1H272KBN	C CHIP 50V 2700P	
C6223	ECUV1H103KBN	C CHIP 50V 0.01	
C6224	ECEA0JKA101	ELECTROLYTIC 6.3V 100	
C6225	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
C6228	VCYSBRC104MX	CERAMIC +-20% 16V 0.1	
C6231	ECEA1CKA100	ELECTROLYTIC 16V 10	
		FILTERS	
FL4001	VLFS0014		
		COILS	
L1001	ELF15N005A	HIGH PASS FILTER 0.5A 18M	⚠
	OR ELF18D290A	HIGH PASS FILTER 0.5A 18M	⚠
	OR LLN23012A	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0157	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0166	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0167	HIGH PASS FILTER 0.5A 18M	⚠
	OR VLQS0168	HIGH PASS FILTER 0.5A 18M	⚠
L1002	VLQSW07D220M	+-20% 22	
L1003	VLQSW07D9R0M	+-20% 9	
L1006	VLPS0005A	22	
L3001	VLQSH02R680K	68	
L3002	ELESN101KA	100	
L3004	VLQSH02R220K	22	
L3005	VLQSH02R390K	39	
L3010	ELESN470KA	47	
L3231	ELESN221KA	220	
L3301	VLQSH02R5R6J	+-5% 5.6	AKEI
L3302	ELESN101KA	100	
L4002	VLQSH02R101K	100	

Ref. No.	Part No.	Part Name	Remarks
L4004	VLQSH02R220K	22	
	(B,C)		
	VLQSH02R100K	10	
	(G,H)		
L4005	VLQSU06R153K	15M	
L4101	ELESN471KA	470	
L5901	ELESN101KA	100	
		CRYSTAL OSCILLATOR	
X3301	VSXS0207		AKEI
X5501	CSB503F38		
X5601	VSXS0208-B		
X6001	VSXS0784		
		PIN HEADERS	
P1002	VJPS0303	CONNECTOR 3P	
P1201	VJPS0765	CONNECTOR PLUG 7P	AKEI
P1202	VJPS0768	CONNECTOR PLUG 19P	AKEI
P1203	VJPS0767	CONNECTOR PLUG 13P	AKEI
P3003	VJPS0882	CONNECTOR 12P	
P4001	VJSS0888	FE CONNECTOR 2P	
P4591	VJPS0268	CONNECTOR 2P	
P6002	VJPS0881	CONNECTOR 8P	
P6201	VJPS0883	CONNECTOR 14P	
		SWITCHES	
SW6001	VSHS0058	LEAF SWITCH-SAFETY TAB	
SW6002	VSSS0159	MODE SELECT SWITCH	
SW6301	EVQ21405R	PUSH SWITCH	
SW6302	EVQ21405R	PUSH SWITCH	
SW6303	EVQPAD09K	CASSETTE DOWN SWITCH	
	(B,C)		
SW6304	EVQ21405R	PUSH SWITCH	
SW6305	EVQ21405R	PUSH SWITCH	
SW6307	EVQ21405R	PUSH SWITCH	
SW6308	EVQ21405R	PUSH SWITCH	
SW6309	EVQ21405R	PUSH SWITCH	
SW6310	EVQ21405R	PUSH SWITCH	
SW6311	EVQ21405R	PUSH SWITCH	
	(B,C)		
SW6312	EVQ21405R	PUSH SWITCH	
SW6313	EVQ21405R	PUSH SWITCH	
	(G,H)		
SW6315	EVQPB005K	PUSH SWITCH	
	(G,H)		
		FUSE & PROTECTOR	
F1001	VSFS0003A16	FUSE 125V 1.6A	⚠
	OR VSFS0012A16	FUSE 125V 1.6A	⚠
	OR VSFS0028A16	FUSE 125V 1.6A	⚠
	OR XBA1C16NU100	FUSE 125V 1.6A	⚠
PR1001	ICP-F38-1	IC PROTECTOR 1.5A	⚠
	OR UN10015	IC PROTECTOR 1.5A	⚠
	OR VSFS0029D25	IC PROTECTOR 1.5A	⚠
PR1050	ICP-F38-1	IC PROTECTOR 1.5A	⚠
	OR UN10015	IC PROTECTOR 1.5A	⚠
	OR VSFS0029D25	IC PROTECTOR 1.5A	⚠
PR1054	ICP-F25-1	IC PROTECTOR 1A	⚠
	OR UN11010	IC PROTECTOR 1A	⚠
		TRANSFORMER	
T1001	ETS28AD1F5AC		⚠
	OR VTPS0034		⚠
	OR VTPS0038		⚠
	OR VTPS0040		⚠
T4101	VLTS0304		

(E23, E25, E27, E30, E32, E33)

Ref. No.	Part No.	Part Name	Remarks
		MISCELLANEOUS	
JK4551	LJP28009A	FRONT A/V JACK SOCKET	AKEI
JK4591	LJP28006A	EARPHONE JACK SOCKET	AKEI
E23	VJSS3325	FUSE HOLDER	AKEI
E25	LMH29002A	LED HOLDER	AKEI
	(B,C)		
E25	LMH29001A	LED HOLDER	AKEI
	(G,H)		
E27	PNA4617M00HC	INFRARED RECEIVER UNIT	
E30	VMTS0035	CUSHION	
E32	VMDS0038	LED SPACER	
E33	VMXS0583	LED SPACER	
		TV STEREO C.B.A.	▲
		(I)	
		INTEGRATED CIRCUITS	
IC4901	VCRS0214	HIC MTS/SAP AUDIO PROCESS	
IC9201	AN7420	IC, LINEAR FM SIGNAL PROCESS	
IC9202	UPC4570C	IC, LINEAR OP AMP	
IC9301	TC4053BP	IC, LOGIC SWITCHING	E.S.D. AKEI
IC9302	TC4053BP	IC, LOGIC SWITCHING	E.S.D. AKEI
		TRANSISTORS	
Q4306	2SA733(TP)		AKEI
Q9201	DTA144ES		
Q9301	2SC945A(TP)		AKEI
Q9302	2SC945A(TP)		AKEI
		DIODES	
D4302	MA165		
D4304	MA165		
D4305	MA165		
D4306	MA165		
		RESISTORS	
R4301	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4302	ERJ6GEYJ101V	MGF CHIP 1/10W 100	
R4324	ERJ6GEYJ124V	MGF CHIP 1/10W 120K	
R4325	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R4326	ERJ6GEYJ124V	MGF CHIP 1/10W 120K	
R4327	ERJ6GEYJ182V	MGF CHIP 1/10W 1.8K	
R4901	EVNDCAA03B14	VARIABLE 10K	
R4904	ERJ6GEY0R00V	MGF CHIP 1/10W 0	●
R9201	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9202	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9203	ERJ6GEYJ102V	MGF CHIP 1/10W 1K	
R9204	ERJ6GEYJ224V	MGF CHIP 1/10W 220K	
R9205	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R9206	EVMF6SA00B53	VARIABLE 5K	
R9207	ERJ6GEYJ332V	MGF CHIP 1/10W 3.3K	
R9211	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R9216	ERJ6GEYJ183V	MGF CHIP 1/10W 18K	
R9217	ERJ6GEYJ183V	MGF CHIP 1/10W 18K	
R9218	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9219	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9220	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9221	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9301	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R9302	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R9303	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R9304	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R9305	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9306	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9307	ERJ6GEYJ104V	MGF CHIP 1/10W 100K	
R9308	ERJ6GEYJ472V	MGF CHIP 1/10W 4.7K	
R9309	ERDS2TJ221	220	
R9310	ERDS2TJ221	220	
R9311	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9312	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	

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Ref. No.	Part No.	Part Name	Remarks
R9313	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9314	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9316	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9317	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R9318	ERJ6GEYJ393V	MGF CHIP 1/10W 39K	
R9319	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9320	ERJ6GEYJ103V	MGF CHIP 1/10W 10K	
R9324	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R9326	ERJ6GEYJ333V	MGF CHIP 1/10W 33K	
R9327	ERDS2TJ221	220	
		CAPACITORS	
C4301	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4302	ECEA1HKA010	ELECTROLYTIC 50V 1	
C4316	ECEA1HKA2R2	ELECTROLYTIC 50V 2.2	
C4318	ECEA1CKA101	ELECTROLYTIC 16V 100	
C4901	ECEA1CKA470	ELECTROLYTIC 16V 47	
C9201	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9202	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C9203	ECEA1CKA100	ELECTROLYTIC 16V 10	
C9204	ECQB1H102JF	POLYESTER +-5% 50V 1000P	
C9205	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9206	ECEA1HKA3R3	ELECTROLYTIC 50V 3.3	
C9207	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9208	ECUV1H223KBN	C CHIP 50V 0.022	
C9209	ECUV1H223KBN	C CHIP 50V 0.022	
C9210	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C9211	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C9218	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9219	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C9220	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9221	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C9301	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9302	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9303	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9305	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9307	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9308	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9310	ECEA1CKA470	ELECTROLYTIC 16V 47	
C9311	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9312	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9313	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9314	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9315	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
C9316	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9317	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9318	ECEA1HKA010	ELECTROLYTIC 50V 1	
C9319	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C9320	ECEA0JKA470	ELECTROLYTIC 6.3V 47	
		COILS	
L9201	ELESN101KA	100	
L9204	ELESN101KA	100	
		PIN HEADERS	
P4201	VJHS0298	PACK PIN 8P	
P4202	VJHS0295	PACK PIN 5P	
P4203	VJHS0298	PACK PIN 8P	
P4204	VJHS0298	PACK PIN 8P	
P4301	VJPS0286	CONNECTOR 7P	
		MISCELLANEOUS	
E39	VMAS1912	P.C.B. SUPPORT ANGLE	

Ref. No.	Part No.	Part Name	Remarks
		HEAD AMP C.B.A.	■
		(A,B,C,F,G,H)	
		INTEGRATED CIRCUITS	
IC2601	AN3809K	IC, LINEAR CYL. DRIVE	
IC3501	AN3371SB	IC, LINEAR HEAD AMP	
		RESISTORS	
R2601	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2602	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2603	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2604	ERDS2TJ1R0	1	
R2605	ERDS2TJ1R2	1.2	
R2606	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3507	ERJ6GEYJ331V	MGF CHIP 1/10W 330	
		CAPACITORS	
C2604	ECUV1E104KBN	C CHIP 25V 0.1	
C2605	ECUV1E104KBN	C CHIP 25V 0.1	
C2606	ECUV1E104KBN	C CHIP 25V 0.1	
C2607	ECUV1E104KBN	C CHIP 25V 0.1	
C2608	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C2609	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C2610	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C2611	ECUV1E333KBN	C CHIP 25V 0.033	
C2612	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C2613	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C2614	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C2615	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C3504	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C3506	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3508	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3511	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3512	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3513	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3528	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3529	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
		COILS	
L3501	ELESN101KA	100	
		PIN HEADERS	
P3501	VJSS0883	CONNECTOR 12P	
		HEAD AMP C.B.A.	■
		(D,E,I)	
		INTEGRATED CIRCUITS	
IC2601	AN3809K	IC, LINEAR CYL. DRIVE	
IC3501	AN3361SB	IC, LINEAR HEAD AMP	
		RESISTORS	
R2601	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2602	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2603	ERJ6GEYJ330V	MGF CHIP 1/10W 33	
R2604	ERDS2TJ1R0	1	
R2605	ERDS2TJ1R2	1.2	
R2606	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3501	ERJ6GEYJ473V	MGF CHIP 1/10W 47K	
R3502	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3503	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3504	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3505	ERJ6GEYJ560V	MGF CHIP 1/10W 56	
R3506	ERJ6GEYJ561V	MGF CHIP 1/10W 560	
R3507	ERJ6GEYJ561V	MGF CHIP 1/10W 560	

Ref. No.	Part No.	Part Name	Remarks
		CAPACITORS	
C2604	ECUV1E104KBN	C CHIP 25V 0.1	
C2605	ECUV1E104KBN	C CHIP 25V 0.1	
C2606	ECUV1E104KBN	C CHIP 25V 0.1	
C2607	ECUV1E104KBN	C CHIP 25V 0.1	
C2608	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C2609	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C2610	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C2611	ECUV1E333KBN	C CHIP 25V 0.033	
C2612	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C2613	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C2614	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C2615	ECEA1EKA4R7	ELECTROLYTIC 25V 4.7	
C3504	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3505	ECEA1CKA470	ELECTROLYTIC 16V 47	
C3506	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3507	ECUV1H103KBN	C CHIP 50V 0.01	
C3508	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3511	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3512	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3513	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3519	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3520	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3524	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3525	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3528	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3529	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
C3532	ECUV1E104ZFN	C CHIP +80%-20% 25V 0.1	
C3533	ECUV1H103ZFN	C CHIP +80%-20% 50V 0.01	
		COILS	
L3501	ELESN101KA	100	
		PIN HEADERS	
P3501	VJSS0885	CONNECTOR 15P	
		JUNCTION C.B.A.	■
		RESISTORS	
R2531	ERDS2TJ270	27	
		CAPACITORS	
C2531	ECEA1CKA100	ELECTROLYTIC 16V 10	
C2532	ECEA1CKA100	ELECTROLYTIC 16V 10	
C2533	ECEA1CKA100	ELECTROLYTIC 16V 10	
		PIN HEADERS	
P2531	VJSS0884	CONNECTOR 14P	
		STEREO AMP C.B.A.	■
		(I)	
		INTEGRATED CIRCUITS	
IC4601	AN5265	IC, LINEAR AUDIO AMP	
IC4602	AN5265	IC, LINEAR AUDIO AMP	
		TRANSISTORS	
Q4601	2SC945A(TP)		AKEI
Q4602	2SC945A(TP)		AKEI
		DIODES	
D4602	MA4120-M	ZENER 12V	
D4603	MA4056-M	ZENER 5.6V	
D4604	MA165		
D4605	MA165		

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Ref. No.	Part No.	Part Name	Remarks
		RESISTORS	
R4602	ERDS2TJ102	1K	
R4603	ERDS2TJ102	1K	
R4604	ERDS2TJ683	68K	
R4605	ERDS2TJ221	220	
R4606	ERDS2TJ561	560	
R4608	ERDS2TJ823	82K	
R4609	ERDS2TJ471	470	
R4611	ERDS2TJ561	560	
R4613	ERDS2TJ103	10K	
R4614	ERDS2TJ103	10K	
R4615	ERDS2TJ100	10	
R4616	ERDS2TJ221	220	
R4617	ERQ1ABJP8R2S	FUSE 1W 8.2	⚠
R4618	ERDS2TJ823	82K	
R4619	ERDS2TJ103	10K	
R4620	ERDS2TJ471	470	
R4621	ERQ1ABJP8R2S	FUSE 1W 8.2	⚠
R4623	ERDS2TJ103	10K	
R4624	ERDS2TJ100	10	
R4626	ERDS2TJ331	330	
R4628	ERDS2TJ471	470	
R4629	ERDS2TJ471	470	
R4630	ERDS2TJ102	1K	
R4631	ERDS2TJ103	10K	
		CAPACITORS	
C4601	ECA1CM220B	ELECTROLYTIC 16V 22	
C4602	ECA1CM470B	ELECTROLYTIC 16V 47	
C4603	ECA1CM100B	ELECTROLYTIC 16V 10	
C4604	ECA1HM4R7B	ELECTROLYTIC 50V 4.7	AKEI
C4605	ECA1HM4R7B	ELECTROLYTIC 50V 4.7	AKEI
C4606	ECA1EM471B	ELECTROLYTIC 25V 470	
C4607	VCYSBRE103KX	CERAMIC 25V 0.01	AKEI
C4608	ECA1CM100B	ELECTROLYTIC 16V 10	
C4609	ECA1CM101B	ELECTROLITIC 16V 100	
C4610	VCYSBRE473KX	CERAMIC 25V 0.047	AKEI
C4611	ECA1CM470B	ELECTROLYTIC 16V 47	
C4612	ECA1CM100B	ELECTROLYTIC 16V 10	
C4613	ECA1HM4R7B	ELECTROLYTIC 50V 4.7	AKEI
C4614	VCYSBRE103KX	CERAMIC 25V 0.01	AKEI
C4615	ECA1CM100B	ELECTROLYTIC 16V 10	
C4616	ECA1EM471B	ELECTROLYTIC 25V 470	
C4617	ECA1CM101B	ELECTROLITIC 16V 100	
C4618	VCYSBRE473KX	CERAMIC 25V 0.047	AKEI
C4624	ECQB1H473KF	POLYESTER 50V 0.047	
C4625	ECQB1H473KF	POLYESTER 50V 0.047	
		PIN HEADERS	
P4601	VEKS5535	P4601 CONNECTOR ASS'Y	
P4602	VEKS5536	P4602 CONNECTOR ASS'Y	
P4604	VJPS0268	CONNECTOR 2P	
P4605	VJPS0268	CONNECTOR 2P	
		MISCELLANEOUS	
E40	VMXS0876	P.C.B. SPACER A	AKEI
		TV MAIN C.B.A.	■
		INTEGRATED CIRCUITS	
IC451	LA7837	IC, LINEAR VERTICAL OUT	
IC801	STR30130	IC, LINEAR +130V REGULATOR	⚠
		TRANSISTORS	
Q431	2SA733(TQ)		AKEI
Q501	2SC1473-QNC		
	(A,B,C,D,E)		
	2SC2653H-CL		
	(F,G,H,I)		
Q505	2SA733(TQ)		AKEI
Q506	2SA733(TQ)		AKEI

Ref. No.	Part No.	Part Name	Remarks
Q507	2SC945A(TQ)		
Q541	2SA733(TQ)		AKEI
Q551	2SD2499LBMA		⚠ AKEI
	(A,B,C,D,E)		
	2SD1555LBMTV		⚠
	OR 2SD2499LBMA		⚠ AKEI
	(F,G,H,I)		
Q571	2SC945A(TQ)		
Q801	2SD636(Q,R,S)		
		DIODES	
D401	ERB12-01V		
D503	ERB43-04V		
D504	MA4082-M	ZENER 8.2V	
D507	MA4200-H	ZENER 20V	
D508	MA165		
D541	MA165		
D553	ERB43-04V		
D554	MA167		
D558	ERB43-04V		
D560	ERB43-04V		
D580	MA167		
	(A,B,C,D,E)		
	MA185		
	(F,G,H,I)		
D581	ERB44-04V		
	(F,G,H,I)		
D582	RH2FV		
	(F,G,H,I)		
D801	EM02BMV		⚠ AKEI
	OR ERC13-08V		⚠
D802	EM02BMV		⚠ AKEI
	OR ERC13-08V		⚠
D803	EM02BMV		⚠ AKEI
	OR ERC13-08V		⚠
D804	EM02BMV		⚠ AKEI
	OR ERC13-08V		⚠
D805	MA165		
D806	MA167		
D851	ERPZ5B0M050F	THERMISTOR	⚠
	OR VRPSCZ5JM050	THERMISTER	⚠ AKEI
	OR VRPSFZ5JM050	THERMISTOR	⚠
	OR VRPSJZ5JM050	THERMISTOR	⚠ AKEI
	(A,B,C,D,E)		
	ERPF5B0M050K	THERMISTOR	⚠
	OR TRPF5B0M050K	THERMISTOR	⚠ AKEI
	OR VRPSKF5JM050	THERMISTOR	⚠ AKEI
	(F,G,H,I)		
		RESISTORS	
R401	ERDS2TJ391	390	
	(A,B,C,D,E)		
	ERDS2TJ151	150	
	(F,I)		
	ERDS2TJ330	33	
	(G,H)		
R402	ERDS2TJ183	18K	
	(A,B,C,D,E)		
	ERDS2TJ153	15K	
	(F,I)		
	ERDS2TJ332	3.3K	
	(G,H)		
R405	ERG1SJ102P	METAL OXIDE 1W 1K	
R406	ERDS2TJ334	330K	
R409	ERDS2TJ273	27K	
	(A,B,C,D,E)		
	ERDS2TJ333	33K	
	(F,I)		
	ERDS2TJ223	22K	
	(G,H)		
R410	ERDS2TJ473	47K	
	(A,B,C,D,E)		
	ERDS2TJ153	15K	
	(F,I)		
	ERDS2TJ123	12K	
	(G,H)		

Ref. No.	Part No.	Part Name	Remarks
R411	ERDS2TJ123	12K	
	(A,B,C,D,E,G,H)		
	ERDS2TJ393	39K	
	(F,I)		
R413	ERDS2TJ123	12K	
	(A,B,C,D,E)		
	ERDS2TJ273	27K	
	(F,I)		
	ERDS2TJ393	39K	
	(G,H)		
R414	ERD25FJ2R2P	2.2	⚠
	(A,B,C,D,E,G,H)		
	ERD25FJ1R2P	1.2	⚠
	(F,I)		
R422	ERDS2TJ331	330	
R427	ERD25FJ1R5P	1.5	⚠
	(A,B,C,D,E)		
	ERD25FJ5R6P	5.6	⚠
	(F,I)		
	ERD25FJ1R8P	1.8	⚠
	(G,H)		
R431	ERDS2TJ103	10K	
R432	ERDS2TJ472	4.7K	
	(A,B,C,D,E,G,H)		
	ERDS2TJ123	12K	
	(F,I)		
R433	ERDS2TJ332	3.3K	
	(A,B,C,D,E)		
	ERDS2TJ123	12K	
	(F,I)		
	ERDS2TJ472	4.7K	
	(G,H)		
R434	ERDS2TJ103	10K	
R435	ERDS2TJ102	1K	
R466	ERDS2TJ683	68K	
R468	ERDS2TJ102	1K	
R470	ERDS2TJ272	2.7K	
	(A,B,C,D,E,F,I)		
R501	ERDS2TJ681	680	
R502	ERDS2TJ332	3.3K	
R503	ER0S2TKF8661	METAL FILM +-1% 8.66K	⚠
	OR VRESR4TF8661	METAL FILM +-1% 8.66K	⚠
R506	ERDS2TJ562	5.6K	
R507	ERDS2TJ472	4.7K	
R509	ERDS2TJ101	100	
R511	ERG2SJ392H	METAL OXIDE 2W 3.9K	
	(F,G,H,I)		
R512	ERDS2TJ102	1K	
R516	ERG3ANJ472H	METAL OXIDE 3W 4.7K	
	(A,B,C,D,E)		
	ERG3ANJ332H	METAL OXIDE 3W 3.3K	
	(F,G,H,I)		
R518	ERG3ANJ472H	METAL OXIDE 3W 4.7K	
	(A,B,C,D,E)		
R519	ERDS2TJ472	4.7K	
R521	ERDS2TJ101	100	
R522	ERDS2TJ103	10K	
R523	ERDS2TJ333	33K	
R524	ERDS2TJ223	22K	
R525	ERDS2TJ822	8.2K	
R526	ERDS2TJ155	1.5M	
R528	ERDS2TJ272	2.7K	
R532	ERQ1CJP102S	FUSE 1W 1K	⚠
	(F,G,H,I)		
R541	ERDS2TJ473	47K	
R542	ERDS2TJ103	10K	
R543	ERDS2TJ472	4.7K	
R544	ERDS2TJ103	10K	
R552	ERDS2TJ273	27K	
R553	ERDS2TJ102	1K	
R554	ERDS2TJ103	10K	
	(A,B,C,D,E)		
	ERDS2TJ123	12K	
	(F,G,H,I)		
R555	ERDS2TJ124	120K	
	(A,B,C,D,E)		
	ERDS2TJ823	82K	
	(F,G,H,I)		

Ref. No.	Part No.	Part Name	Remarks
R556	ERDS2TJ104	100K	
	(A,B,C,D,E)		
	ERDS2TJ823	82K	
	(F,G,H,I)		
R558	ERG2ANJ471H	METAL OXIDE 2W 470	
	(A,B,C,D,E)		
	ERG2ANJ561H	METAL OXIDE 2W 560	
	(F,G,H,I)		
R559	ERDS2TJ123	12K	
	(F,G,H,I)		
R561	ERQ1CJP1R0S	FUSE 1W 1	⚠
	(A,B,C,D,E)		
	ERQ2CJP1R0S	FUSE 2W 1.0	⚠
	(F,I)		
	ERQ2CJP2R2S	FUSE 2W 2.2	⚠
	(G,H)		
R571	ERDS2TJ101	100	
R572	ERDS2TJ222	2.2K	
R573	ERDS2TJ100	10	
R574	ERDS2TJ272	2.7K	
R575	ERDS2TJ331	330	
R580	ERG2SJ471H	METAL OXIDE 2W 470	
	(A,B,C,D,E)		
	ERG2SJ331H	METAL OXIDE 2W 330	
	(F,G,H,I)		
R7002	ERDS2TJ271	270	
R7030	ERDS2TJ182	1.8K	
R7031	ERDS2TJ182	1.8K	
R7032	ERDS2TJ182	1.8K	
R801	ERF3AKR82	W FLMPRF +-10% 3W 0.82	⚠
	OR KRF3AKR82	W FLMPRF +-10% 3W 0.82	⚠
	OR LAR03R82K02	W FLMPRF +-10% 3W 0.82	⚠
	OR LAR03R82K05	W FLMPRF +-10% 3W 0.82	⚠
R802	ERDS1FJ103P	1/2W 10K	⚠
	OR ERDS1FPJ103V	1/2W 10K	⚠
	(A,B,C,D,E)		
	ERDS1FPJ103	1/2W 10K	⚠
	OR ERDS1FPJ103V	1/2W 10K	⚠
	(F,G,H,I)		
R803	ERQ2ABJP5R6S	FUSE 2W 5.6	⚠
	(A,B,C,D,E)		
	ERQ3CJ5R6H	FUSE 3W 5.6	⚠
	(F,G,H,I)		
R804	LAR10331J01	W FLMPRF 10W 330	
	(A,B,C,D,E)		
	ERF15ZJ181	W FLMPRF 15W 180	
	(F,I)		
	ERF15ZJ201	200	
	(G,H)		
R805	ERDS2TJ104	100K	
R806	ERQ14AJ470P	FUSE 47	⚠
R810	ERDS2TJ222	2.2K	
R811	ERDS2TJ103	10K	
R812	VRESC2TK825C	SOLID +-10% 1/2W 8.2M	⚠
	OR VRESC2TK825T	SOLID +-10% 1/2W 8.2M	⚠
R813	ERDS2TJ124	120K	
		CAPACITORS	
C401	ECEA1HGE2R2	ELECTROLYTIC 50V 2.2	
C402	ECEA1CU471	ELECTROLYTIC 16V 470	
C408	ECA1HGE010KB	ELECTROLYTIC 50V 1	
	(A,B,C,D,E)		
	ECA1HGE2R2KB	ELECTROLYTIC 50V 2.2	AKEI
	(F,G,H,I)		
C409	ECA1VM101B	ELECTROLYTIC 35V 100	
C413	ECQB1H104KF	POLYESTER 50V 0.1	
C414	ECEA1CU222	ELECTROLYTIC 16V 2200	
C418	ECA1VM221B	ELECTROLYTIC 35V 220	
C458	ECQB1H103KF	POLYESTER 50V 0.01	
C510	ECKW2H821KB5	CERAMIC 500V 820P	
	(A,B,C,D,E)		
	ECKW2H681KB5	CERAMIC 500V 680P	
	(F,G,H,I)		
C513	ECA1HM100B	ELECTROLYTIC 50V 10	
C516	ECKW1H103ZF5	CERAMIC +80%-20% 50V 0.01	
C520	ECKW1H103ZF5	CERAMIC +80%-20% 50V 0.01	
C521	ECA1HM100B	ELECTROLYTIC 50V 10	

Ref. No.	Part No.	Part Name	Remarks
C523	ECA1HM010B	ELECTROLYTIC 50V 1	
C524	ECKC3D681KBN	CERAMIC 2KV 680P	⚠
	OR ECKC3D681KBP	CERAMIC 2KV 680P	⚠
	(B,C)		
	ECKC3D122KBN	CERAMIC 2KV 1200P	⚠
	OR ECKC3D122KBP	CERAMIC 2KV 1200P	⚠
	(F,I)		
	ECKC3D102KBN	CERAMIC 2KV 1000P	⚠
	OR ECKC3D102KBP	CERAMIC 2KV 1000P	⚠
	OR ECKC3D102KBR	CERAMIC 2KV 1000P	⚠
	(G,H)		
C541	ECA1HM100B	ELECTROLYTIC 50V 10	
C552	ECEA1VU470	ELECTROLYTIC 35V 47	
C553	ECKW2H221KB5	CERAMIC 500V 220P	
C554	ECWH12H682JJ5	POLYESTER +-5% 1200V 6800P	⚠
	OR TAC51682P500	POLYESTER +-5% 1200V 6800P	⚠
	OR TCWH12H682JJ5	POLYESTER +-5% 1200V 6800P	⚠
	OR VCFSF16682JB	POLYESTER +-5% 1200V 6800P	⚠
	(A,D,E)		
	ECWH12H562JJ5	POLYESTER +-5% 1200V 5600P	⚠
	OR TAC51562P500	POLYESTER +-5% 1200V 5600P	⚠
	OR TCWH12H562JJ5	POLYESTER +-5% 1200V 5600P	⚠
	OR VCFSF16562JB	POLYESTER +-5% 1200V 5600P	⚠
	(B,C,F,G,H,I)		
C556	ECQF2H334JZ	POLYESTER +-5% 500V 0.33	⚠
	OR VCFSD2D334JB	POLYESTER +-5% 500V 0.33	⚠
	(A,D,E,F,G,H,I)		
	ECQF2H364JZA	POLYESTER +-5% 500V 0.36	⚠
	OR VCFSD2D364JB	POLYESTER +-5% 500V 0.36	⚠
	(B,C)		
C558	ECA1VM101B	ELECTROLYTIC 35V 100	
C560	ECEA2EU100	ELECTROLYTIC 250V 10	
C561	ECA2CM2R2B	ELECTROLYTIC 160V 2.2	
	(A,B,C,D,E)		
	ECEA2CGE2R2	ELECTROLYTIC 160V 2.2	
	(F,G,H,I)		
C563	ECEA180V33	ELECTROLYTIC 180V 33	
C580	ECQM2154KZ	POLYESTER 200V 0.15	⚠
	OR ECQM2154KZB	POLYESTER 200V 0.15	⚠
	(F,I)		
	ECQM2823KZB	POLYESTER 200V 0.082	⚠
	OR ECQM2823KZW	POLYESTER 200V 0.082	⚠
	(G,H)		
C581	ECWH12H332JS	POLYESTER +-5% 1200V 3300P	
	(F,G,H,I)		
C7001	ECA0JM102B	ELECTROLYTIC 6.3V 1000	
C7002	VCYSARH330J	CERAMIC +-5% 50V 33P	
C7004	ECKW1H682KB5	CERAMIC 500V 6800P	
	(A,B,C,G,H)		
C7007	ECQB1H104P9	POLYESTER +100%-0% 50V 0.1	
C7008	ECEA1CU221	ELECTROLYTIC 16V 220	
C7010	ECKW1H103ZF5	CERAMIC +80%-20% 50V 0.01	
C7013	ECEA1CU100	ELECTROLYTIC 16V 10	
	(I)		
C7018	ECKW1H103ZF5	CERAMIC +80%-20% 50V 0.01	
C7019	ECKW1H103ZF5	CERAMIC +80%-20% 50V 0.01	
C7031	VCYSARH330J	CERAMIC +-5% 50V 33P	
C7032	VCYSARH330J	CERAMIC +-5% 50V 33P	
C801	ECKM2H472PE7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKM2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKW2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
C802	ECKM2H472PE7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKM2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKW2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
C803	ECKM2H472PE7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKM2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKW2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
C804	ECKM2H472PE7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKM2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
	OR ECKW2H472PU7	CERAMIC +100%-0% 500V 4700P	⚠
C805	ECES2DU221EG	ELECTROLYTIC 200V 220	⚠
	OR ECET2DR221SW	ELECTROLYTIC 200V 220	⚠
	(A,B,C,D,E)		
	ECES2PU471HG	ELECTROLYTIC 180V 470	⚠
	OR ECET2PR471SW	ELECTROLYTIC 180V 470	⚠
	OR EC0S2PP471BB	ELECTROLYTIC 180V 470	⚠
	(F,G,H,I)		

Ref. No.	Part No.	Part Name	Remarks
C806	ECEA2EU100	ELECTROLYTIC 250V 10	
	(A,B,C,D,E)		
	ECEA2EU220	ELECTROLYTIC 250V 22	
	(F,G,H,I)		
C807	ECKDRS103ZV	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEKD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEMD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSGKD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSGMD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTKG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTMG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSUKD103MY	CERAMIC +-20% 125V 0.01	⚠
	OR VCKSUMD103MY	CERAMIC +-20% 125V 0.01	⚠
C810	VCKSFKK332MY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSFMK332MY	CERAMIC +-20% 125V 3300P	⚠
	OR VCKSFVK332MY	CERAMIC +-20% 125V 3300P	⚠ AKEI
C811	ECKDRS103ZV	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEKD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSEMD103PZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSGKD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSGMD103QZ	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTKG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSTMG103ZY	CERAMIC +80%-20% 125V 0.01	⚠
	OR VCKSUKD103MY	CERAMIC +-20% 125V 0.01	⚠
	OR VCKSUMD103MY	CERAMIC +-20% 125V 0.01	⚠
	(A,B,C,D,E)		
	ECKCNS223ZV	CERAMIC +80%-20% 125V 0.022	⚠
	OR ECKDNS223ZV	CERAMIC +80%-20% 125V 0.022	⚠
	(F,G,H,I)		
		COILS	
L501	ELH5L423		⚠
	OR LLH2601T		⚠
	(F,I)		
	LLH2602T		⚠
	(G,H)		
L552	TSC925		
L7002	ELESN101KA	100	
L801	ELF18D424F	HIGH PASS FILTER 1.4A 5.6M	⚠
	OR LLN63011A	HIGH PASS FILTER 1.4A 5.6M	⚠
	OR VLQS0154	HIGH PASS FILTER 1.4A 5.6M	⚠
	OR VLQS0159	HIGH PASS FILTER 1.4A 5.6M	⚠
	(A,B,C,D,E)		
	ELF18D650C	HIGH PASS FILTER 1.7A 8.2M	⚠
	OR LLN63021A	HIGH PASS FILTER 1.7A 8.2M	⚠
	OR VLQS0155	HIGH PASS FILTER 1.7A 8.2M	⚠
	OR VLQS0158	HIGH PASS FILTER 1.7A 8.2M	⚠
	(F,G,H,I)		
L802	VLQS7A220M	+-20% 22	
	(F,G,H,I)		
		PIN HEADERS	
PK1	VJSS0871	CONNECTOR RECEPTACLE 13P	AKEI
PK2	VJSS0872	CONNECTOR RECEPTACLE 19P	AKEI
PK3	VJSS0869	CONNECTOR RECEPTACLE 7P	AKEI
PK5	VJPS0275	CONNECTOR 5P	
P801	VEKS5531	P1002 CONNECTOR ASS'Y	
		FUSE & PROTECTOR	
F801	VSFS0003A40	FUSE 125V 4A	⚠ AKEI
	OR XBA1C40NU100	FUSE 125V 4A	⚠
		RELAY	
RL801	TSEH0005		⚠ AKEI
	OR TSEH8007		⚠ AKEI
	OR TSE1860-1		⚠
		TRANSFORMER	
T501	TLH15419	HORIZONTAL DRIVE TRANSFORMER	
	(A,B,C,D,E)		
	ETH19Y70AY	HORIZONTAL DRIVE TRANSFORMER	
	(F,G,H,I)		
T502	ETE19Z30AY	HORIZONTAL DRIVE TRANSFORMER	⚠

(E17, E21, E22, E23, E41, E42, E43, E44, E45, E46, E47, E48, E49)

Ref. No.	Part No.	Part Name	Remarks
T551	KFT2AB073F	FLYBACK TRANSFORMER	⚠
	OR LLE6601K	FLYBACK TRANSFORMER	⚠
	(A,B,C,D,E)		
	KFT3AB074F	FLYBACK TRANSFORMER	⚠
	OR LLE6501K	FLYBACK TRANSFORMER	⚠
	(F,G,H,I)		
		PRINTED CIRCUIT BOARD ASSEMBLY	
E17	LRP23007YZ	CRT C.B.A.	▲ AKEI
	(A,D,E)		
E17	LRP23007ZZ	CRT C.B.A.	▲ AKEI
	(B,C)		
E17	LRP23007AZ	CRT C.B.A.	▲ AKEI
	(F,I)		
E17	LRP23007BZ	CRT C.B.A.	▲ AKEI
	(G,H)		
		MISCELLANEOUS	
E21	VEQS0596A	TUNER,UHF/VHF NR	
	(A,B,C,G,H)		
E21	VEQS0598	TUNER,UHF/VHF NR	
	(D,E,F,I)		
E22	TSX7151-N	AC CORD W/PLUG,120V	⚠ AKEI
	(A,B,D,F,G,I)		
E22	TSX7152-N	AC CORD W/PLUG,120V	⚠ AKEI
	(C,E,H)		
E23	VJSS3325	FUSE HOLDER	AKEI
E41	TUC76677-1	HEAT SINK PLATE	
	(A,B,C,D,E)		
E41	TUC77626	HEAT SINK PLATE	AKEI
	(F,G,H,I)		
E42	TUC77616	GROUNDING PLATE	AKEI
	(A,B,C,D,E)		
E42	TUC77603-1	GROUNDING PLATE	AKEI
	(F,G,H,I)		
E43	TUC77625	HEAT SINK PLATE	AKEI
	(F,G,H,I)		
E44	LML69001A	ANODE LEAD CLAMPER	AKEI
E45	TMM76403-1	CLAMPER	
E46	XTV3+10G	TAPPING SCREW,FE	
E47	XTW3+10J	TAPPING SCREW,FE	
E48	XYN3+F10S	SCREW WITH WASHER,FE	
E49	XYN3+F6S	SCREW WITH WASHER,FE	
		CRT C.B.A.	▲
		TRANSISTORS	
Q351	2SC1473-QNC		
	(A,B,C,D,E)		
	2SC3063-RL		
	(F,G,H,I)		
Q352	2SC1473-QNC		
	(A,B,C,D,E)		
	2SC3063-RL		
	(F,G,H,I)		
Q353	2SC1473-QNC		
	(A,B,C,D,E)		
	2SC3063-RL		
	(F,G,H,I)		
		RESISTORS	
R351	ERG1ANJP153V	METAL OXIDE 1W 15K	
	(A,B,C,D,E)		
	ERG2ANJ153H	METAL OXIDE 2W 15K	
	(F,G,H,I)		
R352	ERG1ANJP153V	METAL OXIDE 1W 15K	
	(A,B,C,D,E)		
	ERG2ANJ153H	METAL OXIDE 2W 15K	
	(F,G,H,I)		

(E50)

Ref. No.	Part No.	Part Name	Remarks
R353	ERG1ANJP153V	METAL OXIDE 1W 15K	
	(A,B,C,D,E)		
	ERG2ANJ153H	METAL OXIDE 2W 15K	
	(F,G,H,I)		
R354	ERD25TJ272	2.7K	
R355	ERD25TJ272	2.7K	
	(F,I)		
R356	ERD25TJ272	2.7K	
	(F,I)		
R357	ERDS2TJ392	3.9K	
R358	ERDS2TJ392	3.9K	
R359	ERDS2TJ392	3.9K	
R360	ERDS2TJ391	390	
R361	ERDS2TJ391	390	
R362	ERDS2TJ391	390	
R363	ERDS2TJ181	180	
	(A,B,C,D,E)		
	ERDS2TJ121	120	
	(F,G,H,I)		
R364	ERDS2TJ181	180	
	(A,B,C,D,E)		
	ERDS2TJ121	120	
	(F,G,H,I)		
R365	ERDS2TJ181	180	
	(A,B,C,D,E)		
	ERDS2TJ121	120	
	(F,G,H,I)		
R366	ERD25TJ272	2.7K	
	(A,B,C,D,E,G,H)		
R367	ERD25TJ272	2.7K	
	(A,B,C,D,E,G,H)		
		CAPACITORS	
C351	VCYSARH391KB	CERAMIC 50V 390P	
	(A,B,C,D,E)		
	VCYSARH471KB	CERAMIC 50V 470P	
	(F,G,H,I)		
C352	VCYSARH391KB	CERAMIC 50V 390P	
	(A,B,C,D,E)		
	VCYSARH471KB	CERAMIC 50V 470P	
	(F,G,H,I)		
C353	VCYSARH471KB	CERAMIC 50V 470P	
	(A,B,C,D,E)		
	VCYSARH561KB	CERAMIC 50V 560P	
	(F,G,H,I)		
C354	ECKC3D102KB	CERAMIC 2KV 1000P	
		PIN HEADERS	
P353	TJS1A5050	CRT SOCKET	
	(F,I)		
P355	TJS1A5081	CRT SOCKET	
	(A,B,C,D,E,G,H)		
		MISCELLANEOUS	
E50	TMM77412	CLAMPER	AKEI
		ELECTRICAL PARTS LOCATED ON CHASSIS	
IC2501	AN3845SC	IC, LINEAR CAP./LOADING DRIVE	

Ref. No.	Part No.	Part Name	Remarks
		SUMMARY OF "E" ITEM NUMBERS	
		REFER TO ELECTRICAL PARTS LIST	
		FOR MODEL INFORMATION	
E1	VEPS3040E1	MAIN C.B.A.	
E1	VEPS3042B1	MAIN C.B.A.	
E1	VEPS3040C1	MAIN C.B.A.	
E1	VEPS3040B1	MAIN C.B.A.	
E1	VEPS3042A1	MAIN C.B.A.	
E1	VEPS3040A1	MAIN C.B.A.	
E2	VEPS4016A1	TV STEREO C.B.A.	
E6	VEPS5012Z1	HEAD AMP C.B.A.	
E6	VEPS5011Z1	HEAD AMP C.B.A.	
E7	VEPS0A25A	JUNCTION C.B.A.	
E11	VEPS4014A1	STEREO AMP C.B.A.	
E16	LRM61002XZ	TV MAIN C.B.A.	
E16	LRM61002ZZ	TV MAIN C.B.A.	
E16	LRM61002ZA	TV MAIN C.B.A.	
E16	LRM61002YZ	TV MAIN C.B.A.	
E16	LRM61002YA	TV MAIN C.B.A.	
E16	LRM61002BZ	TV MAIN C.B.A.	
E16	LRM61002CZ	TV MAIN C.B.A.	
E16	LRM61002CA	TV MAIN C.B.A.	
E16	LRM61002AZ	TV MAIN C.B.A.	
E17	LRP23007YZ	CRT C.B.A.	
E17	LRP23007ZZ	CRT C.B.A.	
E17	LRP23007AZ	CRT C.B.A.	
E17	LRP23007BZ	CRT C.B.A.	
E21	VEQS0596A	TUNER,UHF/VHF NR	
E21	VEQS0598	TUNER,UHF/VHF NR	
E22	TSX7151-N	AC CORD W/PLUG,120V	
E22	TSX7152-N	AC CORD W/PLUG,120V	
E23	VJSS3325	FUSE HOLDER	
E24	LMH69002A	LED HOLDER	
E24	LMH69003A	LED HOLDER	
E25	LMH29001A	LED HOLDER	
E25	LMH29002A	LED HOLDER	
E27	GP1U292Q	INFRARED RECEIVER UNIT	
E27	PNA4617M00HC	INFRARED RECEIVER UNIT	
E30	VMTS0035	CUSHION	
E32	VMDS0038	LED SPACER	
E33	VMXS0583	LED SPACER	
E39	VMAS1912	P.C.B. SUPPORT ANGLE	
E40	VMXS0876	P.C.B. SPACER A	
E41	TUC76677-1	HEAT SINK PLATE	
E41	TUC77626	HEAT SINK PLATE	
E42	TUC77616	GROUNDING PLATE	
E42	TUC77603-1	GROUNDING PLATE	
E43	TUC77625	HEAT SINK PLATE	
E44	LML69001A	ANODE LEAD CLAMPER	
E45	TMM76403-1	CLAMPER	
E46	XTV3+10G	TAPPING SCREW,FE	
E47	XTW3+10J	TAPPING SCREW,FE	
E48	XYN3+F10S	SCREW WITH WASHER,FE	
E49	XYN3+F6S	SCREW WITH WASHER,FE	
E50	TMM77412	CLAMPER	